

# MARINE RECORD

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## FOSTER A MERCHANT MARINE.

Those who have been advocating the policy of encouraging the growth of merchant marine by subsidy point to some of the recent war preparations as proof of their position. The chartering of the American liners by the government, and their conversion into cruisers, says the American Manufacturer, leads the advocates of shipping interest to mention that were it not for the postal subsidy bill, passed in the revenue of the four formidable vessels, aggregating 15,000 tons gross measurement, would be at the disposal of the United States. The United States could not have acquired any American vessel exceeding 5,000 tons measurement, or 18 knots speed but for the passage of the postal subsidy bill at the time stated. Another fact mentioned is that the government chartered the American liners at its own terms. The company promptly accepted the terms offered, although in the opinion of some they were none too liberal.

It is argued that this war should teach our people the

## NEW YORK-ATLANTIC PASSENGER TRAFFIC.

The customary statistics relating to the passenger traffic across the Atlantic have been published, by the several companies. They will furnish interesting study for the curious. The number of passengers carried to New York continues to diminish. The total for 1897 is given as 282,936, as against 351,573 in 1895, and 595,313 in 1891. On the other hand, the total number of trips made was greater last year than in any previous one. It would at first be inferred that the year was a bad one for the passenger lines, but the effect of the rate-maintaining conference must be remembered in any such consideration. The decreases mentioned above are shown in respect to both cabin and steerage passengers. The Cunard Line heads the list for cabin passengers carried with 15,196, but it is singular that the two services of the North German Lloyd, together, the Bremen (12,589) and the Mediterranean (2,607), carried precisely the same number—15,196. The figures for both classes appear as follows:

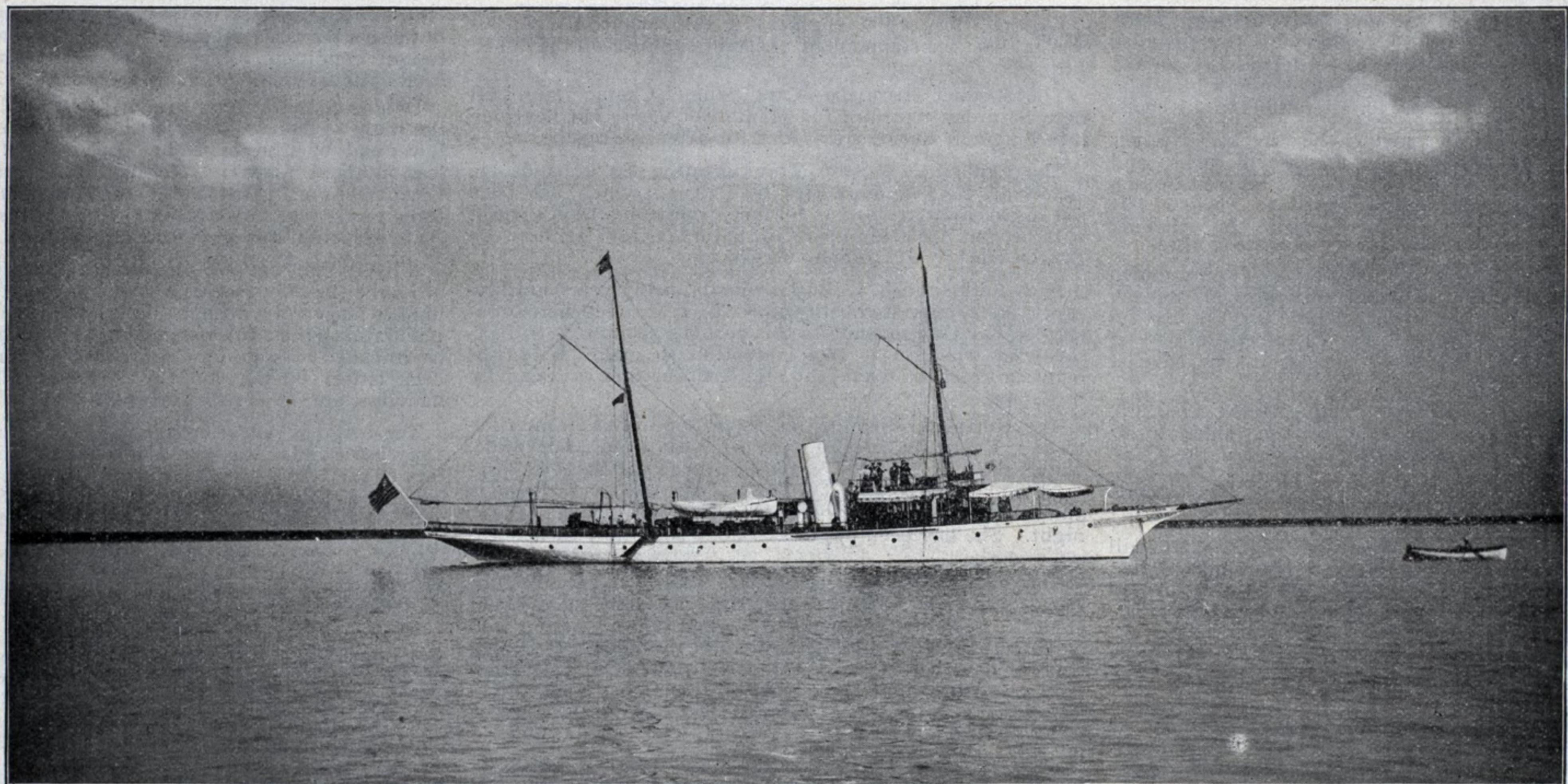
The North German Lloyd heads the list of sailings with 121; the Hamburg-American follows with 100; then the Cunard, 61; the White Star and American, 53 each. The highest average number of passengers per ship belongs to the White Star, viz., 553, the Cunard being 534.

## OHIO FISHING LAWS.

The chief warden of the Ohio Fish and Game Commission sends out the following explanation of the statutes:

The laws regulating fishing in the waters of Lake Erie have been changed. No one is allowed to fish in these waters with nets and boats without first procuring from the Ohio Fish and Game Commission a license to do so.

The cost of the license per year for a tug boat or any boat propelled by steam engaged in fishing with gill nets, \$40 each; sail boat engaged in gill net fishing, \$5 each; pound nets, fyke nets or trap nets, \$3 each; for all other nets or seines, except gill nets fished from boats, \$2 each.



Steam Yacht Enquirer, owned by W. J. Connors, of Buffalo, N. Y.

(From engraving used in Beeson's Marine Directory, 1898 edition, just from press. Copyrighted)

necessity of fostering our shipping interests. As one writer on this point says, we possess a commerce to-day that gives employment to millions of tons of ships—many times more than we possess of our own, as is shown in the fact that but about eleven per cent. of our entire foreign commerce is carried in American vessels. We give employment to the finest ships afloat in the world to-day, because our trade is the most profitable, the most desirable, the most attractive; but in almost every case foreign ships monopolize this carrying trade. Of course, it is held that protection for the American merchant marine is what is needed to enable us to build and own the ships that our growing commerce employs, but there are indications that in the course of events we are moving in that direction. A large merchant marine is necessary in building up a great navy, as the commercial service is a training school in which men are fitted for service in the navy.

Line.	Cabin.	Steerage.
Cunard.....	15,196	17,303
*N. G. Lloyd.....	15,195	40,415
American.....	14,443	11,322
*Hamburg-American.....	10,866	17,323
White Star.....	10,104	19,271
Cie. Trans.....	6,044	14,264
Anchor.....	6,478	*19,372
*Holland-American.....	2,871	10,503
Red Star.....	4,493	10,557
At. Transport.....	1,820	7,280
Allan-State.....	1,823	1,050
Thingvalla.....	850	3,201
Fabre.....	22	11,374
Union.....	..	2,332
Baltic.....	..	2,227
Pacific.....	..	1,010

\* Two services.

In every case save in that of cabin passengers carried by the North German Lloyd, a decrease is shown in both classes.

Applications should be made to the Ohio Fish and Game Commission, Athens, Ohio, accompanied by remittance to cover.

Blanks and copies of the law will be furnished upon application to the Ohio Fish and Game Commission, Athens, Ohio.

This law is in force from date of its passage, April 26, 1898. All licenses will date from June 1, and any boats or nets fished in the waters of Lake Erie without license after that date, will be taken up in accordance with the law.

As suggesting the time and labor sometimes necessary to the development of an important invention, it is to be noted that the original British patent for the Parsons' steam turbine was dated April, 1884, and, it being about to expire, the Judicial Committee of the Privy Council have recommended an extension for five years.

## THE MARINE RECORD.

### NEWS AROUND THE LAKES.

#### DETROIT.

*Special Correspondence to The Marine Record.*

The schooner H. G. Cleveland was libeled by the marshal at Port Huron on Tuesday for a tow bill contracted last season.

Sunday trips on the D. & C. Line have been resumed and the passenger traffic is picking up as brisk as it was expected to do at this time of the season.

The Lumber Carriers' Association has decided to refuse the request of the Lumber Dealers' Association for a rate on lumber to Detroit less than to Ohio ports.

The Port Huron tug Thompson and the steamer Manola succeeded in releasing the whaleback ashore on Stag Island, and the tug Boynton towed her to her destination.

Capt. Moiles, of Saginaw, who went to Denver, Col., for his health, some time ago, died there last Friday night. His remains were brought back to Saginaw for burial.

The Toledo Yachting Association will give their first regatta of the season on the morning of May 30. The race will be held off Turtle Light, over what is known as the Toledo course.

Capt. J. R. Rogers, recently of the revenue cutter Fessenden, and now in charge of the life saving inspection for all the lakes except Lake Michigan, has established his headquarters in room 204 Hammond building.

The work of recovering the copper cargo of the steamer Pewabic will be resumed. The steamer H. A. Root, which carried the diving bell last year, will leave Milwaukee in a short time for Thunder Bay to resume work.

The Detroit Dry Dock Co. expect to have the new C. & B. Line steamer City of Erie ready to turn over to her owners by about the middle of June when she will at once be put on the route between Cleveland and Buffalo via Erie, Pa.

Assistant Secretary Spaulding has reduced to \$2 the fine of \$50 imposed by the Detroit collector of customs on the barge Fostoria for failure to surrender her license. The fine of \$50 imposed on the steamer Bob Stevenson, at Marquette, for the same offense, was reduced to \$10.

James Davidson, of Bay City, and E. H. Moreton, president of the Michigan & Ohio Car Ferry Co., have settled out of court their differences over the car ferries Tycoon and Mikado. A board of arbitrators will determine which is to suffer the loss of \$2,449 incurred for alterations to the boats.

Capt. Reid succeeded in moving the wrecked steamer Outhwaite forty feet on Monday by the use of jacks, and with fair weather it is believed he will effect her release in a few days. The wreck will then be towed to Presque Isle and allowed to sink again until her consort the schooner Barr is floated.

James Morison, aged 74 years, living at 199 Twenty-fourth street, died at his residence on Tuesday morning of stomach trouble. He has been in failing health for the last 18 months. Mr. Morison was a well known vesselman and at the time of his death owned an interest in the steamer Abercorn and two tow barges.

The fueling department of the Cuddy-Mullen Coal Co. dock at Sandwich has had four new pockets added to its facilities for this season, thus making fourteen pockets and two steam derricks for use in fueling. Punctual work and courteous business treatment is the rule of the dock under Mr. Mullen's superintendence.

The captain of the steamer Preston left at the Kendall Marine Reporting Agency, Port Huron, a carrier pigeon, that he picked up on Lake Erie. Kendalls placed the bird in their loft and describe it as a dark blue rock hen bird. The ring attached bore the inscription T No. 49,617. It is not stated whether after resting up, the bird is to be sent on the wing again, but it is more than likely that such has been done.

There will be many marine people sorry to learn of the recent death of Mr. Henry White, one of the oldest boiler makers in the country. For a number of years Mr. White carried on business at this port, he moved to Port Huron in 1872, where he went into partnership with Mr. John Ritchie, eventually buying out his partner and conducting the business with his sons, A. F. and J. O., who retain the managing interest since the death of their father. Mr. White was 73 years of age and has left besides a widow, four sons and one daughter—all of the sons are boiler makers and are well known in Port Huron.

The report of United States Circuit Court Commissioner Davison, of Detroit, in the case of the schooner Emily B. Maxwell, has been confirmed by Judge Henry H. Swan, in the United States District Court. This schooner was libeled late in the fall of 1896, for having run into and sunk the schooner Col. Ellsworth, during the night of Sept. 2, in the Straits of Mackinac. The libelant, Charles A. Chamberlain, claimed damages to the amount of \$3,500. The respondents, after the responsibility for the accident had been fixed upon them by the court, thought that the Col. Ellsworth was not worth more than \$1,200, and that all other damages could not bring the amount above \$2,500. Commissioner Davison fixed the damages at \$2,800, and both sides appealed from his report.

A number of the leading lumbermen met this week to discuss the lumber interests. It was a meeting of the "\$1," or low rate men. They were much concerned over getting logs out of Canada after this season, when the rate will be

\$2 per 1,000 feet instead of only \$1, the act of the Dominion parliament raising the tax was in retaliation on this government for imposing a \$2 duty on Canadian lumber brought into this country. A great many Michigan firms have large tracts of timber in Canada and if the tax of \$2 holds good they will be obliged to saw their lumber in Canada or leave the trees standing, as it is said that the \$2 tax cannot be borne. But if the lumber be cut in Canada there will still be \$2 rate on the lumber to pay. An active war will be waged by the lumbermen against the law, or for other laws in Congress by which they may be granted relief. The first thing to be done, however, is to ask the Canadians for relief.

If Mr. Chamberlain is quoted correctly there appears to be some short sighted men engaged in the lumber carrying business. As illustrating the present attitude of prominent shippers toward the association, Mr. Chamberlain showed to a News reporter some correspondence not yet a week old, which passed between himself and Alex. R. Sinclair, of Duluth; also George F. Furbush, of Ashland. In refusing to do any business with the Chamberlain line of boats Mr. Sinclair made the statement that it was folly to do so in view of the fact that he could easily get a lower rate, as boats of the Lake Superior Transportation Co., and the steamers McGraw and Normandie, of a Chicago line, had been making a rate of 14 shillings to Chicago. Mr. Furbush, after loading one of Chamberlain's boats, the Mowatt, refused to charter any more at the association price, stating that not a foot of lumber outside of the Mowatt's charter had been carried from Ashland for more than 14 shillings. Moreover, he declared, he could name seven or eight association boats which had made a 13-shilling rate to Buffalo and Tonawanda. When other carriers are endeavoring to secure a fair living rate of freight on lumber it looks mean and dishonorable for one or two owners to cut under the moderate rates asked.

#### CHICAGO.

*Special Correspondence to The Marine Record.*

Grain freights are steady this week at 1 1/4 cents on corn.

The schooner Kanters was on the Independent line's floating dry dock for repairs.

The steamer Francis Hinton docked in one of Miller Brothers' dry docks for a new Sheriff's wheel.

George Tilton, chief engineer of the steamer Bangor last season, has been appointed assistant engineer on the W. R. Linn.

The steamer Escanaba, Capt. Samuel Chamberlain, left here Saturday morning for Manitowoc where she has gone into Burger & Burger's dry dock for extensive repairs.

The Graham & Morton Transportation Co.'s handsome sidewheel steel steamer City of Chicago, which has been put in excellent condition for her excursion season's work, will be put in commission on Saturday, May 21, between Benton Harbor, St. Joseph and Chicago.

S. S. Burke and B. L. Burke who for many years until recently were associated with the N. M. T. Co., left here Monday for Bay City to bring to this port the steamer T. S. Paxton with which it is their intention to make daily trips between Chicago, Waukegan and Kenosha and occasionally to Racine.

The Northern Michigan Transportation Co.'s steamer Pecktoe, Capt. McGuigan, arrived here from Manitowoc, where she had received extensive repairs at Burger's shipyard, and a new boiler. On Tuesday she took on passengers and freight and left for northern Michigan ports Tuesday night. She has been put in excellent condition for her season's work.

The new steel steamer America, built at Wyandotte for the Chicago and Michigan City line, will arrive here about June 10. She will immediately be put in commission and will make two trips daily between Chicago and Michigan City. The new steamer is said to be one of the most complete passenger and freight boats on the lakes. Capt. M. F. Morgan, formerly of the Huron line steamer F. & P. M. No. 1, will command her.

Capt. William H. Evans, of the steamer Francis Hinton, in April last had the Independent pumps and condenser taken out of the engine room and a Montague Iron Works pump and condenser connected to the engine. Capt. Evans says that the change makes a difference of from five to six tons less consumption of coal in a round trip between Chicago and Menominee and hopes that with the new Sheriff's wheel just put on the steamer there will be a still further saving of fuel.

The Lumber Carriers' Association is now a recognized factor in the lumber carrying trade. The shippers who have been fighting the association have gradually been brought to acknowledge that the tariff demanded by the carriers is just, and they have yielded to the inevitable. Nearly all of the lumber carrying fleet have been chartered at tariff rates during the past week, and there is much joy evidenced amongst the owners and masters at the victory they have gained and they now hope for a prosperous season.

Armour's elevator D. at Brown and Lumber streets, south branch of Chicago river was destroyed by fire last Thursday and more than 1,000,000 bushels of grain were consumed. The fire also extended to the lumber yards of Francis Beidler & Co., Lord & Bushnell Lumber Co., Stephenson Lumber Co., Arthur Fourley & Co., and the D. S. Pate Lumber Co., and the several railroad companies in the vicinity had 33 box cars destroyed. The total loss is estimated at \$960,540. The insurance \$882,300.

The three remaining tugs of the Vessel Owners' Towing Co., were sold at a receiver's sale Saturday. Receiver James Higbee, Jr., conducted the sale on board the boats. The Satisfaction and Black Ball were bid in by Attorney Brice at \$425 and \$450 each, and Capt. Edward Napier purchased the Mike Shields at \$430. The Shields will be used in the new Chicago River Freight Transfer Co.'s service. It is supposed that Attorney Brice bought the two tugs in for other parties and the disposition of the boats is not known.

A curious mix-up in the grain trade occurred Saturday over a cargo of wheat which the steamer Ionia brought down from Manitowoc for the Northern Grain Co. The grain had been sold to Leiter, but when it came to delivering 25,000 bushels were rejected as not being up to grade. The balance of 35,000 bushels was accepted. What to do with the 25,000 bushels on board the steamer was the question. It was finally decided to take it back to Manitowoc and unload it to the elevator there. When that grain is out of the Ionia another cargo will be loaded and brought here. The steamer thus earns a freight both ways.

#### BUFFALO.

*Special Correspondence to The Marine Record.*

New decks and hoisting apparatus are being placed on the steamer Brazil. She is to go into the Lackawanna Line.

Capt. Joseph Frawley has succeeded Capt. David Carrier as master of the Cormorant. Capt. Frawley was on the Jewett of the Western Transit Co. last season.

Derricks have been erected on the Mineral Range coal docks at Houghton, Mich., and vessels can be unloaded as soon as the dredges have completed work, which will be before June 1. The new dock is the largest and most modern in the district and there is ample water alongside for large carriers.

The steamer Havana, with ore for Tonawanda, went on the bottom of Niagara river at the foot of Porter avenue and was lightered off. The Schuck, also ore laden, struck but did not fetch up. Tug men say that the obstruction is on the government ranges and call on the government engineer to correct them.

The wooden steamer J. J. Hill, is on her way to the coast down the St. Lawrence canals. The Hill was built on the lakes for Atlantic service, being fully equipped for salt water but was afterwards detained on the lakes owing to the better freight conditions. She will prove a valuable collier for fueling naval vessels.

Dunbar & Sullivan's steam drill, Big Bill, was burned to the water's edge and sank last week in the channel off the lower end of Chester Island, Delaware River, involving a loss of about \$45,000. The drill has been in use, by the Department of Public Works of Philadelphia for the past three years, removing the rock from Schooner Ledge and the obstruction known as the Illinois Rock.

A lively fight between the lumber shippers and the union of lumber handlers seems to be in prospect. A circular to lumber inspectors, dealers and vessel owners, asking aid in maintaining their rule permitting all lumber coming here to be unloaded by stevedores appointed by the exchange, has been issued by the lumber exchange. The carriers and handlers, are, however, working together.

The cargo of wheat brought here by the steamer L. R. Doty last Sunday was one of the most profitable in the history of the lakes. It consisted of 95,000 bushels of wheat, which was bought at Duluth by Leiter for 67 cents a bushel, and shipped from that port direct to Buffalo by Spencer Moore & Co., consigned to Brown & Co. It is understood that Leiter receives \$1.87 a bushel for the cargo, a profit of \$1.20 a bushel, or a gross profit on the single consignment of \$114,000.

The canal boatmen are more than sore at the delay in the canal opening, and the breaks resulting from defective work of contractors on the \$9,000,000 improvement, this has caused a loss of canal transportation, of lumber and other material. There are cargoes now loaded for Rochester and points east of that city, which are threatened with transfer to rail unless canal transportation can be assured on or before May 20. There are also many tons of miscellaneous freight in the canal at the eastern end for western shipment which are being delayed by the breaks in the canals mentioned. Canal men are therefore not feeling greatly encouraged at the outlook. There is no doubt that their business is being gradually drawn away from them by the delay.

#### CLEVELAND.

*Special Correspondence to The Marine Record.*

Sunday trips to Detroit by the D. & C. line have begun for the season.

Capt. E. Talbot is in command of the new schooner Maida, of the Minnesota fleet.

Finishing touches are being put to the new tug Harvey D. Goulder at the yards of the Globe Iron Works Co., and she will be ready for work in a couple of weeks.

The Thos. B. Sheldon docked in the Cleveland dry dock this week for calking butts and searching up. The steamer Continental will dock on Friday, also for calking.

J. R. Parker is this season mate of the Wilson liner Spokane, Capt. Yousley. The Wilson Line, as a rule, carry only the best kind of masters, mates and engineers, and Mr. Parker is all there all the time.

The fine steel steam yacht Comanche, will probably reach New York this week, and will then be turned over to the Navy Department. The W. J. Connors yacht Inquirer, is also booked for the same service.

The C. & B. liner State of Ohio when going down the river on Monday night took a sheer just above the Lake Shore bridge and walked into the dock. The damage was such as to prevent her sailing and the passengers had to be transferred.

Freight rates remain about the same as last week. A fair amount of coal tonnage at 20 cents is being taken. A block of ore to be moved from Escanaba to Lake Erie ports, the contract to run up to Nov. 1, has been covered at fifty cents, which is five cents better than was paid earlier in the season.

A well known lake master and pilot is Capt. Thos. Clark, now in charge of the schooner Herschel, of Chicago. Capt. Clark is now a lower laker, though for that matter as long as there is a fair freight to be earned, he is at home sailing anywhere. The Herschel has been at this port twice within the past month.

Daily trips between Cleveland and Put-in Bay will be commenced by the Detroit & Cleveland navigation company on June 15. The steamers City of the Straits and State of New York are the boats that will be put on this line. The steamers have been elegantly refitted, making them very fine excursion boats.

Supt. E. E. Chapman, of the life saving service, having headquarters at Buffalo and Capt. J. H. Rogers, formerly of the revenue cutter service but now inspector of the district, were at the life saving station Monday. A high compliment was paid Capt. Motley on the general efficiency of the station, which was found in first-class condition and well disciplined.

The Globe Iron Works Co. are overhauling the steel steamer Cambria, of the Mutual Line. Her hatchways are being altered, etc. With the finishing work on the new cutter Algonquin, which is nearly ready for service and the construction of new tonnage, the yards, engine department and boiler shops are kept quite busy and there is plenty of work ahead.

There is a probability that a number of lumber carrying vessels will be laid up. This move will be made in accordance with a plan which originated among the members of the association, and has been under consideration for some time. The duration of the tie-up has not been settled. Some of the members want it to extend for a period of six weeks and others think that three weeks would be ample time.

Lumber dealers are making complaints about the alliance between the Lumber Carriers' Association and the longshoremen. Many of them say they have no objection to paying association rates, but they want to be allowed to name the persons who shall do the unloading. To this complaint, however, it is not probable that any attention will be paid, as it is considered simply an indirect attack on the association itself.

The Moss national bank, of Sandusky, has taken possession of the steam barge Adventure to satisfy a claim of \$2,500, secured by mortgage given by the owners May 21, 1897. The vessel will be offered for sale here on Tuesday, May 31. The Adventure was formerly a schooner, but was converted into a steam barge last winter. She has been engaged in the stone carrying trade from the islands and Marblehead to this port.

Two more pieces of land abutting on the river are about to be purchased by the city. One is a strip facing 40 feet on the river front and is needed for the new Center street bridge. The other parcel is triangular, being 106 feet long and 20 feet at its widest point. It is below the west end of the viaduct draw and is needed for river widening. One firm owns both pieces of ground and it is believed that the deal will be closed shortly.

The date for launching the steamer Presque Isle, building at the Lorain yards of the Cleveland Ship Building Co., has not been fixed yet. It will take place in a few weeks, however. Capt. James Lowe will command the new boat and Thomas Kelly will have charge of her machinery. The master and engineer are two of the most experienced, successful and best known men on the lakes, so that the Presque Isle, when she does get afloat, is certain to be excellently well cared for.

A broker who is posted on the subject says that the Lumber Carriers' Association is holding firmly together, despite the assaults made upon it. He mentions several instances within his own knowledge in which owners have refused to accept less than the established rates. In five or six of these cases the owners have ordered the brokers to place the boats for ore, and they have done so, even though a cargo of lumber at a somewhat reduced figure might have been profitable. Considerable quantities of lumber are now beginning to reach Detroit and Ohio ports, and the attack upon the association is becoming more spasmodic, though it has not yet been abandoned. Only one fleet that is owned and controlled by O. W. Blodgett, of Bay City, is now outside the association. The situation enables him to do a good business, as the lumber dealers pay him the established rates in the hope of thereby breaking down the association.

Capt. John A. Collins, of the U. S. revenue cutter service, is here this week from Washington to superintend the completion of the revenue cutter Algonquin, at the Globe Iron Works. He will remain in Cleveland until after the dock trial of the vessel, which will take place Saturday, and probably until after the speed trial, which will be held some time next week if the dock trial results satisfactorily. Collins is

confident that the new cutter will exceed the Gresham in speed. The Onondaga, sister ship to the Algonquin, is also being rushed to completion at the Globe yards and will be ready for trial in a few weeks. When these vessels are finished they will be sent to the Atlantic coast for equipment with guns, and will then be assigned to service with some one of the squadrons, probably the dispatch boats, because of exceptional speed. The Gresham is capable of making eighteen knots and Capt. Collins thinks the new cutters will exceed this.

#### FLOTSAM, JETSAM AND LAGAN.

A branch of the International Longshoremen's Association has been organized at Manistique, Mich., and the rate of wages placed at 40 cents per hour.

The steamer Grandon has been sold at Toledo, to Freyensee & Haas, for \$2,500. She will run between Put-in-Bay and the Middle Bass Island this season.

The little schooner Globe, which was to have been sailed across the ocean by Capt. Freitsch, has been sold to Green Bay parties, who will use it as a trading boat.

An order for twenty anchors, each to weigh 4,000 pounds, has been received by the American Steel Casting Co., of Sharon, Pa. They will be shipped to South Africa.

The steamer W. R. Lynn broke the record of large grain cargoes last week by entering Owen Sound harbor with 238,000 bushels of corn. The cargo equalled 6,634 tons.

The work of removing the hulk of the burned Canadian steamer Winnipeg from Duluth harbor, for which the contract was taken by Capt. Inman a short time ago, is now in progress.

Capt. Geo. C. Thompson, of the car ferry Shenango No. 2, reports that the bar at the entrance to Muskegon harbor has been reduced by the offshore seas and there is now 16 feet of water there.

Capt. James Rooney, Sr., of Toledo, has sold the tug Wisconsin to E. C. Williams, of Marquette, for \$7,000. The schooner H. C. Schnoor, also at Toledo, will be sold by the United States marshal.

The steamer Samuel F. B. Morse, of the Rockefeller fleet, the largest ship on fresh water, will be launched at the yards of the Wheeler Ship Building Co., next week. The Morse is 475 feet over all and will carry over 7,500 tons.

Assistant Secretary Spaulding has reduced to nominal sums the fines of \$50 imposed by the collector of customs at Marquette on the schooners Mary E. Ryan and Alice E. Chapin for failure to surrender license.

But few craft are loading coal at Toledo, this week. This trade has been dull since the opening of navigation. The receipts of iron ore are also light. There have been a number of cargoes of wheat shipped to Buffalo, but rates are very low. A cent a bushel has been the prevailing rate for steamers.

The large wooden schooner John C. Fitzpatrick, was towed through the Welland canal last week by the steamer Kittie M. Forbes. It is stated that had the schooner been three inches longer she could not have passed through the locks, so, that in her model, may be found about the exact dimensions for the largest Welland canal craft.

It is estimated that nearly 2,000,000 bushels of grain was taken into Buffalo harbor Sunday. The arrivals were in excess of those for several preceding days, and nearly all were large grain carriers. Among the number were the Uganda, W. H. Wolf, Carrington, Orr, Lewiston, Owen, Neosho, Helena, Pasadena, Nicol and Fedora.

On Friday evening the Donnelly Wrecking & Salvage Co., Kingston, received orders from an insurance company to take a diver and wrecking outfit down to Lachine, P. Q., to raise the tug McRae, which had sunk there. It is presumed that in assisting the steamer Chieftain to haul off the barges Hyderabad and Bangalore, ashore near that point, the tug met with the casualty.

The Collins Bay Rafting and Forwarding Co., Collins Bay, Ontario:—W. Lesslie, Manager, kindly forwarded the MARINE RECORD a large clear photograph of the tug William H. Brown as she appeared when pontooned from a draft of 13 feet 6 inches to 9 feet to go through the St. Lawrence canals. A project which they successfully performed as they have done on several other occasions.

The Boston yacht Wrinkle has been purchased by Emil G. and Chas. Schmidt, of Sandusky. The Wrinkle was built last season and during the summer won 14 first prizes at Boston, and it is safe to predict that she will set the pace for those in her class on Lake Erie this season. She is 29 feet over all, 19 feet water line and 9 feet beam and has a sail area of 750 square feet. She will sail in the 22-foot class on the lakes and will prove a valuable addition to the Sandusky Yacht Club's fleet.

Regarding the standard automatic releasing hook, for the lower block of boats' davit tackle falls, Capt. Geo. E. Merritt, then in the steamer Parks Foster, in writing to the manufacturers at 22-24 State street, New York, said: "I have made a practical application and test of your releasing hook on one of my boats. I have given it an exhaustive and careful trial during my last trip, and can unhesitatingly recommend it as having successfully fulfilled the duties expected of it. I would like to see its general introduction."

A decision was rendered in the district court at Duluth, Minn., last week, in the case of the Vega Steamship Co., against the Consolidated Elevator Co. The court holds that vessel owners cannot recover the shortages in their grain

cargoes under the laws of the state of Minnesota, Judge Moer held that the state weighmaster is in effect an arbitrator between the elevator and the vessel owner, and when he is accepted in that capacity, no one can go back of his figures unless the law is unconstitutional. Therefore, there can be no recovery of shortages. The case will be taken to the supreme court.

A Canadian exchange says: The government at Ottawa made a move in the right direction this spring by ordering the inspection of American passenger steamers by Canadian inspectors. This should have been done long years ago, for Americans always required that Canadian passenger vessels touching at American ports should undergo United States inspection, whilst American boats were allowed to run to Canadian ports under only American inspection. The order from Ottawa now is, however, thanks to the Liberal Government, that Canadian inspectors are to inspect all American passenger steamboats plying to Canadian ports, and this order is being rigorously carried out. There are no better or more practical inspectors in the world than the Canadian officers, so that the order is a better security for passengers on American boats.

A part of the U. S. revenue cutter Gresham lies sunk in the harbor at Ogdensburg. The work of cutting the little steamer in two and bulkheading the parts for the trip down the St. Lawrence had been completed, and tugs were about to take her in tow when the forward section was found to be filling with water and soon sank to the bottom. The officers of the ship are reticent when asked in regard to the matter. The wrecking job will doubtless be difficult as the hull lies in an awkward position, and being below the surface will prove a serious problem. The contract which the government entered into calls for the safe delivery of the Gresham at Montreal ready for sea. Had the accident occurred while the Gresham was in the St. Lawrence rapids loss of life must have ensued. As it was, the men lost their clothing and effects.

The chief of the Hydrographic Survey Corps, with the Dominion government cruiser Bayfield, has been at work in the ship channel leading into Parry Sound for the past week. It has been found that a deeper and straighter channel can be laid out either to the south or north of the Pancake Islands. Mr. Stewart is making careful soundings and will probably lay out a new channel, or may use the old channel which was abandoned by Commander Boulton. Two small derricks with lanterns have been erected on the Carling shore as range lights, and these in conjunction with the new light to be erected on Depot Island will be quite sufficient to bring vessels into port on the Boulton channel in any weather. Should a new channel be selected, another range will be built. Capt. Alfred Burritt has been placed in charge of these temporary lights which are now in operation.

#### A TOUGH YARN.

William Anderson, a sailor on the schooner Nettie Sundborg took a cruise along Barbary coast last night to battle with the demon rum, and got the worst of the battle, says the San Francisco Examiner. The d. r. set him on fire inside, cracked him on the top of the head, and one of the demon's imps punched him in the weather eye. Late this afternoon William hove to, in front of the city front receiving hospital, for repairs. Surgeon Hawley probed the scalp wound, wiped out the dirt and proceeded to sew up the hole in William's figurehead, while Dr. Thompson held the tar. Zip went the needle into William's cuticle, and the sailor never flinched.

"Wonderful nerve," remarked Dr. Hartley, taking a reef in the thread and making ready for another plunge.

"Quite a stoic," replied Dr. Thompson.

"He comes from a hardy race," resumed Hartley, again sticking the needle into the scalp patchwork.

"Must be a Norwegian," said Thompson.

"Sou-wegian, I think," responded Hartley, going ahead with his seamstress work.

"I never saw a man so indifferent to pain," mused Thompson.

"I have heard of similar cases. I remember when I was a student I attended a lecture—. Oh! did I hurt you?"

The break from the recollection of the lecture was caused by Dr. Hartley sticking the needle into the patient's ear, but the tar breathed no sound.

"There you are," said Hartley, handing the sailor his hat. "Why—it—the fellow's asleep."

A snore smote the atmosphere. The doctors exchanged glances which were full of meaning. They seemed to say: "That's a horse on me!"

The sailor's indifference to pain was solved. He had been asleep all the time, and now when they came to awaken him it was a more difficult job than the stitching of his wound. They put ammonia under his nostrils, and he breathed it in as if it were stephanotis. They shook him by the shoulders, and he only snored the louder. They bastinadoed him and the operation seemed to tickle him immensely. They gave it up in despair.

At this juncture Capt. Clem Randall of the tug Fearless happened along, and the situation was explained to him. Capt. Randall shook the sailor, and that did no good.

"I'll fix him," he said, and, putting his mouth to the ear of the slumbering tar, he yelled:

"Down jib!"

"Aye, aye, sir!" cried the sailor, jumping to his feet as if he were shot and grasping wildly at an imaginary line.

"Get out forward!" shouted Randall.

"Aye, aye, sir!" and he made a bolt for the door of the hospital and landed on Mission street wharf before he realized that he was not aboard ship.

## THE MARINE RECORD.

### NOTICE TO MARINERS.

DOMINION OF CANADA—ONTARIO.

CHART OF BAY OF QUINTE.—A chart of the eastern portion of the Bay of Quinte, from Kingston to Deseronto, has lately been published by the British admiralty.

TORONTO EAST PIER LIGHTS.—The small column fixed red light hitherto maintained on the outer edge of the east pier, Toronto, has been moved N. W. by N. 2,400 feet and now stands on the inner end of the pier, forming with the new front tower which has been erected on its former position a range showing the line of the pier. The light is, as heretofore, fixed red, elevated 18 feet above the lake level and can be seen from all points of approach from the bay.

The new skeleton tower stands on the position formerly occupied by the column light.

Lat. N.  $43^{\circ} 37' 48''$   
Long. W.  $79^{\circ} 20' 20''$

The light is occulting red, bright six seconds with intervals of darkness of six seconds. It is elevated 43 feet above lake level, and should be seen in clear weather at a distance of 8 miles, over an arc of  $180^{\circ}$  from N.N.E. around to S.S.W.

The apparatus is dioptric of the 6th order.

The building consists of a steel skeleton frame work surmounted by an enclosed top and lantern. The frame work is painted red, the enclosure and lantern white and the roof red. The height of the building from base to vane is 40 feet.

only 50 yards off the line of range, one on each side.

SAILING DIRECTIONS.—A vessel entering Parry Sound after passing the 15 foot spot off Hooper Island should either return to the Jones Island—Gordon Rock range or bring the above range on bearing S.E. by E. to pass through the Gordon rock channel. Keep this on until the lights on Harold Point are seen clear of the southeast point of Nias Island, when haul up for Hugh Rock light bearing E.  $\frac{1}{4}$  N. until the lights on Harold Point come in line bearing N.E. by E.  $\frac{3}{4}$  E. Keep them exactly on until abreast of Cameron Island when proceed as directed in Notice to Mariners No. 15 of 1898. If leaving Parry Sound, before passing Cameron Island, see that the Harold Point range is exactly on bearing N.E. by E.  $\frac{3}{4}$  E. Keep it so until between Hugh and Gordon Rocks when haul up for Gordon Rock bearing W.  $\frac{1}{4}$  N. until the Lyon Rock range comes on to lead through Gordon Rock channel bearing S.E. by E.

Steer on this range (Red rock light should be seen a little on the port bow) until the Jones Island—Gordon Rock range comes on, when haul over for Twin Rock for a short time to avoid the 15 foot spot off Hooper Island. When Pancake Island comes abreast (it can generally be made out even on a dark night) a vessel will be abreast of the shoal and may haul over to get the range on again and she must keep it so.

DOMINION OF CANADA.—ONTARIO.

I. COLOR OF BUOY ON MIDDLE GROUND, MIDLAND HARBOR.—The buoy on Midland Bay shoal, Midland harbor,

whose effects have been entrusted to your custody is ascertained by you, you will communicate the fact of the death of said deceased foreign seaman, and that his effects are in your custody, to the nearest consul of the nation of which the deceased seaman was a citizen or subject.

2d. Upon application you may, in your judgment, then permit said consul in person to make such an examination of the effects as may tend to identify the deceased.

Respectfully yours,

EUGENE T. CHAMBERLAIN, Commissioner.

APPROVED: O. L. SPAULDING, Assistant Secretary.

### FEES FOR ADMEASUREMENT OF VESSELS.

If forecastle be admeasured to ascertain gross tonnage, no fee should be charged for a readmeasurement to ascertain crew space for deduction.

### TREASURY DEPARTMENT, May 4, 1898.

SIR: This department is in receipt of your letter, dated the 3d instant, addressed to the Commissioner of Navigation, submitting an inquiry by the collector of customs at Eureka, Cal., whether a charge of \$1.50 may be made for admeasuring the forecastle of a vessel to ascertain gross tonnage, and, also, of \$1 for the admeasurement of the same space for deduction.

The department's circular of April 5, 1895, allows charges only when admeasurement is "actually and necessarily made." The admeasurement of the forecastle to ascertain gross tonnage being necessary, the fee therefore may be allowed. Readmeasurement for deduction being unneces-



Scene in Manitowoc Harbor, December 12th, 1897, showing a coal-laden fleet.

(From engraving used in Beeson's Marine Directory, 1898 issue, just from press. Copyrighted.)

TEMPORARY RANGE LIGHTS—MAIN CHANNEL, PARRY SOUND.—I. On the western Lyon rock has been erected a whitewashed pyramidal beacon which from a height of 20 feet above the water exhibits a fixed white light visible in the line of the range towards Gordon rock channel 6 miles.

II. On the south end of the large heavily timbered island next north-east of Knightsleigh Island has been erected a similar beacon which also from a height of 20 feet above the water exhibits a fixed white light visible in the line of range 6 miles.

These two lights in one bearing S.E. by E. lead through the channel at Gordon rock in 5 fathoms least water.

III. On the south-east side of Harold Point (Kill Bear Point) has also been erected a whitewashed pyramidal beacon surmounted by a pole which from a height of 25 feet above the water exhibits a fixed white light visible in the line of range 8 miles.

IV. On the main land 1,300 feet N.E. by E.  $\frac{3}{4}$  E. from the front light is erected an exactly similar beacon and pole which from a height of 50 feet above the water exhibits a fixed white light visible in the line of range 8 miles.

These two beacons and lights in one bearing N.E. by E.  $\frac{3}{4}$  E. lead fairly between Nias Islands and Carling Rock on the north-west and Rose Island, Hugh Rock and Cameron Island on the south-east. In passing through the channel the range should be held exactly on to lead past a rock with 19 feet water on it (black buoy) lying east 2,000 feet from the east side of Nias Island and also to lead past a rock with 16 feet water on it (red flag buoy) lying W. by S.  $\frac{3}{4}$  S. 2,000 feet from Cameron Island Beacon. These rocks lie

Georgian Bay, is a red spar buoy and not a black buoy as shown on charts.

F. GOURDEAU,  
Deputy Minister of Marine and Fisheries.  
DEPARTMENT OF MARINE AND FISHERIES.

Ottawa, May 4th, 1898.

All bearings, unless otherwise noted, are magnetic and are given from seaward, miles are nautical miles, heights are above high water, and all depths are at mean low water.

Pilots, masters, or others interested are earnestly requested to send information of dangers, changes in aids to navigation, notices of new shoals or channels, errors in publications, or any other facts affecting the navigation of Canadian waters to the Chief Engineer, Department of Marine and Fisheries, Ottawa, Canada.

### TREASURY DECISIONS RELATING TO VESSELS, NAVIGATION, ETC.

DEATHS OF SEAMEN OF FOREIGN COUNTRIES TO BE REPORTED TO FOREIGN CONSULS.

TREASURY DEPARTMENT,  
BUREAU OF NAVIGATION,  
WASHINGTON, D. C., May 9, 1898.

To U. S. Shipping Commissioners and others:

To facilitate the proper distribution of the effects of deceased seamen of foreign countries, which may be entrusted to your custody, to the legal heirs of such seamen, you are instructed:

1st. When the nationality of a deceased foreign seaman

sary, the charge of \$1 will not be allowed.

O. L. SPAULDING, Assistant Secretary.

THE AUDITOR FOR THE TREASURY DEPARTMENT.

"THAT France and Italy and Portugal should sympathize with Spain is clear enough to us. Why cannot the same considerations be applied to Britain and America? We are all citizens of King Shakespeare's empire—inheritors of the same literature, language, laws and faith. Whatever their blemishes may be, Americans are ourselves. They are engaged in a disinterested crusade in the cause of humanity and self-government. They ask for even-handed neutrality—would accept nothing more even from the 'old home'. This will be conceded. And we notice with satisfaction that the inspired press of Germany, Russia, and Italy are for strict neutrality also. Austria, like France, is very angry still, but this can be accounted for."—Shipping World, London.

THERE is trouble at Duluth over the grade of wheat bought by Leiter last December. A boat was loaded last week from the Globe elevator with what was said to be No. 1 northern wheat, certified to by Minnesota inspection, but Leiter refused to accept it as not being of the grade claimed. No agreement was reached, and the boat loaded at another elevator. The Globe has a million and a quarter bushels of No. 1 northern wheat, and the matter may get into the courts. Mr. Leiter has refused several cargoes of inferior wheat, and one cargo after its arrival at Chicago from a Wisconsin port was shipped straight back, the vessel collecting freight on the round trip.

**THE ILLINOIS STEEL COMPANY—THE GREATEST INDUSTRY ON THE SHORES OF LAKE MICHIGAN.**

Among the astonishing developments of this revolutionary period in the American iron trade is the appearance of the Illinois Steel Co., as a competitor for business in the world's markets. Although its works are nearly 1,000 miles from the Atlantic seaboard, being located on the shores of Lake Michigan, and assembling the raw materials from distances of 300 to 700 miles, it has overcome such apparent disadvantages and is making its influence felt beyond the seas. In the remarkable reductions in the cost of producing iron and steel in this country, the Illinois Steel Co. has taken a prominent part, its able technical staff having steadily made improvements in plants and methods.

The corporation known as the Illinois Steel Co. was formed May 1, 1889, by the consolidation of the North Chicago Rolling Mill Co., the Joliet Steel Co., and the Union Steel Co. This brought under one control five plants, as follows: North Chicago works, established in 1857; South Chicago works, established in 1880; Milwaukee works, established in 1868; Joliet works, established in 1870; Union works, Chicago, established in 1863. The main plant is the South Chicago works. The Joliet works are at Joliet, Ill.,

plants, a very large open hearth steel plant, two modern rail mills, billet mills, twin rod mill, plate mill and merchant mills.

The South works are located on the shore of Lake Michigan, 12 miles from the center of Chicago, at the mouth of the Calumet river. When the erection of the works was undertaken, in 1880, the property consisted of sand beach about two feet above the surface of the lake. The area increased, mainly by large purchases in 1889, so that in 1897 it comprises 258 acres. The present elevation of the yard, from 6½ to 16 feet, gives proper drainage for fly-wheel pits, gas flues and regenerator chambers.

The shipping facilities call for special mention. The works are in direct connection with six railroads. In the enclosure are 36 miles of standard gauge and 6½ miles of 3-foot gauge track. Water shipments are made from two slips. The South slip, entered from the lake by the Calumet river, is 1,000 feet long and 96 feet wide. A depth of water is maintained sufficient for vessels loading to 18 feet. The ore yards reached by this dock will hold 300,000 tons of ore and when extended, as will be done shortly, will hold 100,000 tons more. Three vessels can unload to the ore yards, one can unload into cars, a fifth can coal up for a voyage, and a sixth can unload lumber, all at the same time. The

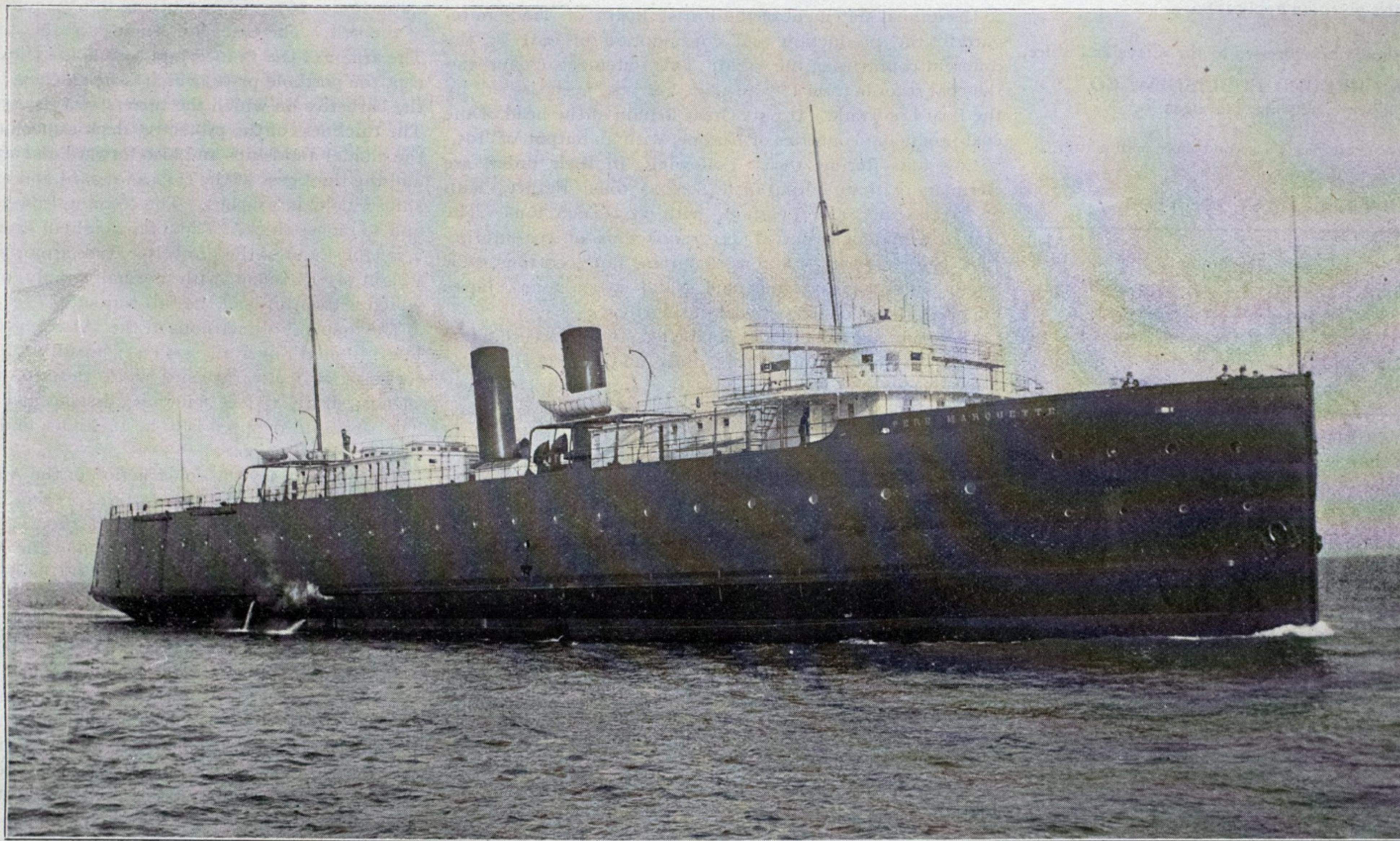
are deepened the cargoes will run up to 6,000 tons.

The ore is handled at the South slip by a series of swinging booms, lifting the ore buckets from the hold of a vessel and dumping into push cars running on trestles over the ore yards; there being 53 of these hoists. At the North slip are 16 cantilever hoists and conveyors of the Brown Hoisting & Conveying Machine Co. An abstract of the record is given showing the best time of unloading vessels:

Season	1895	1896	1895	1897
Boat	Manhattan	G. N. Orr	Manchester	"137"
Cargo (tons)	2,008	2,639	2,750	4,000
Men (including signal boys)	44	81	95	153
Hoists	4	9	7	12
Time (hours)	10	6½	6½	8½
Tons per hour	201	422	435	471
Tons per man per hour	4.6	5.2	4.6	3.0
Slip	North	North	South	South

At another time a gang of 42 men unloaded a boat of 1,600 tons in the morning, and in the afternoon another of 1,750 tons, or 3,350 tons in all, in 12 hours. This is equal to 80 tons per man, or 6½ tons per man per hour, and was done at the South slip.

The officers of the company are as follows: John W. Gates, president; Charles H. Foote, first vice-president; William P. Palmer, second vice-president; William A. Green, secretary; William H. Thompson, treasurer, and A. M. Crane, general sales agent. The directors of the company



**View of the Car Ferry, Pere Marquette, owned by the Flint & Pere Marquette Ry.**

(From engraving used in Beeson's Marine Directory, 1898 edition, just from press. Copyrighted)

and the Milwaukee works are at Milwaukee, Wis. These five plants occupy over 700 acres of ground, and the company also owns coal lands and coke ovens in Western Pennsylvania and West Virginia, iron ore properties in Michigan and Wisconsin, and limestone quarries in Indiana, adding considerably to the acreage above stated.

The company also owns the controlling interest in the Chicago, Lake Shore & Eastern Railway Co., which operates the internal transportation at the different plants, and connects directly, by means of its own tracks and leased trackage, the South Chicago works and the Joliet works with the coal supply in Indiana and Illinois. This railway also connects, by means of its own belt lines, with all of the railroads terminating in Chicago, and with the extensive docks in the Calumet region. It has 124 miles of track in the various yards, and operates altogether 369 miles. Its equipment consists of 57 locomotives and 3,127 cars. A large number of the latter are actively engaged in the coke traffic from Pennsylvania and West Virginia. In addition to this, the Illinois Steel Co. has 17 miles of narrow gauge track and 32 locomotives operating thereon at various points.

The authorized capital stock of the Illinois Steel Co. is \$50,000,000 of which \$18,650,635 has been issued. The works comprise, in all, 17 blast furnaces, 4 Bessemer steel

river frontage of the company is 2,500 feet. Along Lake Michigan the property extends for 5,200 feet. Three thousand two hundred feet north of the river mouth is the North slip, opening with a protected mouth into Lake Michigan. This slip is 200 feet wide and 2,900 feet long. Thus sufficient room is provided to permit of making all shipments of ore required in the season of navigation. Shipments are also made here of all the company's products destined for points reached by vessels either in this country or in foreign ports. Vessels loading here proceed direct to the seaboard via the Great Lakes and the St. Lawrence river, or Erie canal and Hudson river. In this way steel rails, billets, wire rods, cotton ties, tin plate bar, pig iron, spikes, angle bars, bolts, nuts, etc., are insured quick handling for export. With the present equipment eight boats can discharge and receive cargoes simultaneously, direct to the yards or to cars placed on the dock alongside the vessels, either by machinery or by hand loading.

A total of 1,600,000 tons of ore have been received in seven months at these slips. While the average cargo of ore is a little short of 3,000 tons, the larger vessels of recent build often run over 4,000 tons, such as the cargo of the barge Carrington received on May 5, 1897, of 4,968 tons. When St. Mary's river and the harbors of the ore shipping ports

are: Nathaniel Thayer, Francis Bartlett, Francis L. Higginson, of Boston; Morgan Rotch, of New Bedford; A. J. Forbes Leith, of London, Eng.; Cornelius C. Cuyler, of New York; Isaac L. Ellwood, of DeKalb, Ill., and Marshall Field, Norman Williams, William L. Brown and John W. Gates, of Chicago. W. R. Walker is general manager; L. D. Doty, purchasing agent; E. A. S. Clarke, general superintendent South works; C. L. Miller, general superintendent Union works; W. C. Catlin, general superintendent Joliet works, and George L. Reis, general superintendent Milwaukee works.

The finishing department fitting shops at the North works are operated by the Universal Construction Co., of which Edward Haupt is president.

Work on the government contracts in Portage Lake canal was begun on Tuesday with one hundred men, and the force will be doubled as soon as the men can be hired. There are many idle persons in the district, but a large number of them will accept nothing but work in the mines, that being their accustomed employment. The workmen will be lodged in tents, as there are but few buildings. Sufficient material is on the ground to allow the work to be prosecuted with full forces.

# THE MARINE RECORD.



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**CLEVELAND, O., MAY 19, 1898.**

It looks as if the Naval Reserves at some of the lake ports were composed of a lot of namby pamby counter-hoppers, who liked better to play at naval tactics than face the stern reality. The Ohio boys say that if they can't ship just as they want to and keep in their own crowd by all going together, they won't enlist or ship at all. So there!

**SECRETARY OF WAR ALGER** has sent to Congress a draft of a bill to create in time of war a second assistant secretary of war, with a salary of \$4,000. The secretary urges the importance in this exigency of immediate action, and names the compensation. It is, of course, possible, judging from a patriotic standpoint, to name an available assistant secretary, but the shame of being asked to accept so paltry a recompence ought surely to have been omitted.

THE hard, squally, treacherous weather experienced on the lakes during Wednesday and Thursday were fairly heralded by the Weather Bureau. In this connection too much credit can not be given to Professor Garriott stationed at Chicago, although the inspectors of stations and local forecast officials gave the prognostications every publicity that they could. We are rather inclined to the belief that the Weather Bureau officials are making somewhat better records at the lake stations than formerly.

NAVAL reserve forces should be under the orders of the President. A reserve corps is an auxiliary and as we have no State navy the only reason for the formation of the naval reserve corps is to assist the national arm of the service when required. In the army or navy, obedience to orders is the soldier's or sailor's first and most important duty, nor need they stand upon the order of going or doing, only execute with skill and alacrity that which they are called upon to undergo or perform. A State naval reserve is a misnomer, and, as the RECORD has so frequently pointed out, can be but an abortive organization, always costing the general government more than it is worth.

**LAKE FREIGHTS.**

The lake freight market remains about where it was last week, though a large block of coal has been fixed at 20 cents, and that seems to be the figure at which it will remain for leading ports, Lakes Michigan or Superior, with fairly brisk chartering. During the week charters for the season were made on coal, 25 cents, Lake Michigan, and down cargoes at 50 cents from Escanaba. This business strengthened the 40-cent Escanaba rate, and 45 cents was looked for on single trips, but it has not come up to that yet, though owners look for the advance. It is claimed that several good sized blocks of coal to go to the head of Lake Superior have been covered by lake freight contracts to run up to Sept. 15,

at 20 cents, and that some charters to run through November have been made at 25 cents. Nearly all the Lake Michigan coal that has been covered at 25 cents was worked in connection with ore deals. Grain rates, Chicago, are unchanged at 1½ cents on corn, though a shading to 1¾ cents took place for very handy cargoes; 1¾ cents on wheat to Buffalo, and 2½ cents on corn to Lake Ontario. The Duluth grain shipments have had a set-back on account of Leiter being dissatisfied with the Minnesota grain inspections. Toledo, 1¼ cents wheat to Buffalo. Freight rates are ruling low all through and the present indication for a raise is not very promising; in fact, there are no promises looked for—it's a case of catch as catch can, hoping that with prompt dispatch at both ends of the route and successful sailing a balance may be found on the right side for the better class of boats, however, there has been detention experienced this week through the crowding of a prominent elevator at Buffalo. The Lumber Carriers' Association seem to be holding together well and insisting upon their schedule rates of freight. It is their only salvation to do so, and they seem to recognize such to be the case, as they are laying up some of the tonnage rather than accept starvation rates.

**FUEL A CONTRABAND OF WAR.**

Naval considerations have given more than usual interest to the annual statement of the British Board of Trade in regard to the production and consumption of coal by the different countries of the world. This statement, comprising the coal records from 1883 to 1896, has just been issued by the Board of Trade. It puts Great Britain at the head of the coal-producing countries of Europe, with an output of 195,361,000 tons during 1896. Following, in their order, are Germany, with an output of 85,690,000 tons; France, with 28,750,000 tons, and Belgium, with 21,252,000 tons. The United Kingdom exported 44,587,000 tons of coal during 1896, Germany 6,122,000 tons, Belgium, 4,018,000 tons, New South Wales 2,474,000 tons, and Natal 90,000 tons. Japan exported 1,805,000 tons of coal during 1895.

The countries which are compelled to import coal are Russia, Sweden, France, Spain, Italy and Austria-Hungary. A number of the British colonies are also importers of coal, viz.: Canada, Victoria, Tasmania, New Zealand, Cape Colony, and India. And it is also right to state that hundreds of thousands of tons are imported annually into San Francisco from New South Wales, Australia, and Nanaimo, B. C. Great Britain's navy is principally the navy of her colonies, and the fact that some of her dependencies have to import coal is not of vital importance, as the necessary supplies can be obtained from other British sources; but with France, Spain, Russia, Italy, Austria and Sweden, the coal problem would be more perplexing. With stocks of coal low at the home ports, and neutrality laws strictly enforced, the movements of the navy of any non-producing coal country would be seriously impeded, and this is where John Bull's proclamation making fuel a contraband of war has helped this nation in the present squabble with Spain. When there is some good square fighting done, the unpleasantness may be dignified by calling it a war, but not until then.

**A NEW RAILROAD CAR FERRY LINE.**

The Wisconsin & Michigan Car Ferry Co., which has been operating a line of ferry boats between South Chicago and Peshtigo, Wis., has made a traffic agreement with the Illinois Steel Co. The car ferries will make regular stops at Milwaukee, but it will only do business for the steel company. The Illinois Steel Co. has also chartered one or two of the barges owned by the car ferry company, and this will be used in transporting the steel company's freight between Milwaukee and South Chicago. This will do away almost entirely with the railroad hauling of its immense amount of freight, in raw material and finished work, as the car ferry will deliver and take all of it, under the agreement made.

The Illinois Steel Co., which owns a large portion of Jones Island, will at once build a railroad track from its Bay View plant to the new dock on the island, and as the company has its own cars, engines, etc., the problem of connection on the island with the car ferry line and the company's mills will become a very easy and simple one, and in this way the steel company will be in a position to do its extensive freight business at a greatly reduced cost.

The docks for the ferry company will be completed and ready for use within a month, and by that time the railroad from the Bay View mills to the dock will be down and ready for business. This move means a great deal for the Illinois Steel Co., a fact admitted by interested transportation companies, which have in the past annually carried large quantities of freight for it between Milwaukee and Chicago.

**LAUNCH OF THE U. S. BATTLESHIP ALABAMA.**

The U. S. battleship Alabama was successfully launched from Cramps' shipyard, Philadelphia, on Wednesday.

Miss Mary E. Morgan, daughter of Senator Morgan, of Alabama, christened the ship. The weather was beautiful, but only a few persons witnessed the ceremony, fear of Spanish treachery keeping the gates of the shipyard closed against all except about 200 invited guests and newspaper men. The ship can be made ready for commission in a year if the armor is delivered promptly.

The Alabama is the first to be launched of three new battleships of her type, the other two being the Illinois and Wisconsin. She presents marked divergencies of design from the first three, the Oregon, Indiana and Massachusetts. These differences involve both the arrangement of the battery and the disposition of the armor, as well as a considerable increase in size and displacement.

The first type had the armor arranged in a water line belt and casemate amidships, with the ends forward and aft of the belt protected by submerged armored decks and their main batteries were heavily mounted.

The armament, armor and speed of the Alabama with a displacement of 11,500 tons compares favorably with the latest type of battleships built abroad with a displacement of 15,000 tons. The maximum thickness of armor on the water line is 16½ inches tapering to 9½ inches at the bottom of the belt. The casemate armor is of the same thickness. The armor of the 13-inch gun turrets is 15 inches thick, except the porthole plate, which is 17 inches. The armor of the barbettes on which the turrets rest is 15 inches thick. The thickness of the protective deck armor on the flat over the citadel amidships and also forward and after is 2¾ inches and the thickness of the slopes forward and aft of the amidships citadel is 4 inches. The conning tower is cylindrical and 10 inches thick. The total weight of armor and bolts is 2,720 tons, and of the protective deck armor 593 tons. The weight of armament with normal supply of ammunition, which is two-thirds of the full war supply, is 864 tons.

The general dimensions of the Alabama class are as follows: Length over all, 374 feet; breadth, 72 feet; freeboard forward, 20 feet; freeboard abaft the after turret, 13 feet 3 inches; draft, 23 feet 6 inches; displacement, 11,520 tons. The guaranteed speed is to be 16 knots, and the estimated horse-power, 10,000.

The builders say the construction of the Alabama has been delayed over a year by the failure of the last Congress to provide the necessary armor. Had prompt provision been made for the manufacture of the armor, the Alabama would at this time, instead of being launched, be nearly fitted out for service.

**REPORT OF ENGINEERS' SURVEY.**

Bulletin No. 7, containing the complete surveys of the Corps of Engineers of the United States Army, on the Great Lakes, has been issued, and contains much information of practical value to vesselmen. It shows decided and much needed improvement in many of the lake ports, in the widening and deepening of channels and other harbor work, and gives depth of water of each. It reports that Horseshoe Reef, upon which the Havana stuck fast last week, has a depth of eighteen feet at main water level, for a width of 400 feet, so that the Havana couldn't fetch up at that depth. The bulletin is intended to supplement the information given upon the regular charts of the lakes.

**FIRE IN A GRAIN CARGO.**

The steel steamer Chili loaded at Chicago last week with 100,000 bushels corn. While on Lake Huron, smoke was discovered issuing from her hatches forward of the coal bunkers, and investigation showed a fire well under way in her cargo. The hose was at once turned on, and the fire, it was supposed, extinguished. The remainder of the trip was made without incident, but when the Chili arrived at Buffalo it was found that the fire was still in progress, and again water was poured upon the smouldering grain.

The steamer was towed to the Bennett elevator, and the work of unloading begun. It was found necessary frequently to turn on the hose and cool the grain. A large section of the cargo was found to be charred so badly as to be utterly worthless, 5,146 bushels being thrown out entirely. Of the remainder 30,000 bushels was rejected by the elevator, having been damaged by smoke and water, and of the 100,000 bushel cargo but 64,854 bushels was passed suitable for shipment east.

The exact amount of damage has not yet been settled. The cargo was insured by R. E. Rispen for \$35,000. The vessel sustained considerable damage beyond the loss of so

large a part of her cargo. The steel deck beams had been warped by the intense heat, and in one place the deck was burned through. The damage was all to her upper works, however, and on being discharged she was taken to the coal docks and a light cargo put in, she then left for Chicago, where all necessary repairs will be made.

In addition to her grain cargo the Chili had glucose, flour and bran aboard and a part of this was somewhat damaged by smoke. Underwriters can explain the origin of the fire simply on the supposition that one of the trimmers at work in the vessel's hold at the time of loading her, threw a burning cigar or knocked fire from his pipe into the grain. It is claimed that the grain was in prime condition when loaded, and that the live smoldering could not have been the result of spontaneous combustion.

#### A LABOR-SAVING DEVICE.

The following pertinent remarks are from the Iron Trade Review, Cleveland:

A recent strike of riveters in the yards of the Chicago Ship Building Co., illustrates the mistaken attitude now and then assumed by labor organizations toward labor-saving improvements. Where the unions have felt strong enough to enforce their schedules, they have now and again attached a penalty to the operation of some form of machine by establishing a very high wage for the operator. This was the real point at issue in the Homestead strike of 1892. Time has been required to overcome these antagonisms, but in general organized labor has accepted the machine as an inevitable feature of the modern industrial movement and has squared its practice to the facts as it finds them. In the case of the Chicago strikers there is an inconsistency in the attitude of the men at the beginning. The company had been using pneumatic riveters for two years but only on certain parts of the work, mostly inside. Recently the company completed a machine for driving shell rivets, that is, rivets with countersunk flush points, probably the first machine of the kind ever used. The shell riveters, being the most expert class and receiving the highest pay, had not been exercised over the introduction of riveting machines on inside work—their idea being, probably, that machines could not be perfected so as to do the shell work. On the introduction of the new machine the strike came, and the Brotherhood of Boiler Makers and Iron Ship Builders assumed charge of the matter. It need hardly be said that the union has made a mistake in thinking to stop the advance of the machine into any avenue of employment, no matter how select may have been the circle of hand workmen heretofore occupying it. The seeming hardships of the machine regime are a matter of familiar discussion; but good or ill—we shall not say all good—the machine is a larger factor with every day, and it is useless to kick against the pricks.

#### EASTERN FREIGHT REPORT.

Messrs. Funch, Edye & Co., New York, in their weekly report sent to the MARINE RECORD, state that steam freights have continued their downward tendency, and, consequently 4s. 1½d. at the moment appears to constitute the limit for further fixtures, May @ June loading, although at this figure, too, the enquiry is nominal. The shippers generally have, for the time being, withdrawn from the market, as the violent fluctuations in our grain prices rendered all offers on their part too dangerous, and the Chicago speculators having momentarily suspended further chartering, business is practically at a standstill—all the more so, since the European demand does not appear sufficiently pressing to pay the prices now ruling here, as the result of manipulation. Large tonnage for picked ports may be quoted at about 3s. 10½d. for May @ June; 3s. 6d. and 3s. 7½d. as to ports, for July; 3s. 7½d. and 3s. 9d. for August, but the enquiry is not brisk. The urgent demand for prompt tonnage from the Gulf ports appears to have been satisfied at the moment, and we look for some chartering thence for timber now ere very long.

Business in sail tonnage in our neighboring ports has, of necessity, been restricted during the past week by the scarcity of foreign tonnage, both on the spot and to arrive. Rates are very irregular; whilst in some directions an advance of upwards of 50 per cent. has been established, the rates to other directions remain unchanged. A number of fixtures for deals and lumber have been made for Europe and for South America at advanced rates, and the demand in this line still continues. Even naval store freights are waking up to an advance, and 3s. is now being offered from Southern ports to Cork f. o.

#### AN EARLY INSPECTION TRIP.

Hon. C. K. Brandon, H. C. Penny and A. G. Comstock are guests of Maj. M. J. Adams, Corps of Engineers, U. S. A. on board the light-house tender Amaranth, making the spring tour of the district. They were at Sturgeon Bay, Wis., Sunday, and left for Manitowoc, thence across lake Michigan to Manistee and up the shore to Frankfort, Grand Traverse the Straits, and down Lake Huron to Detroit by the end of the week.

#### NEW SIGNALING APPARATUS.

The United States Navy has been recently equipped with the new signaling apparatus to which the name of telephotos has been given, and which is considered by American naval experts the most rapid, powerful and effective night signal system yet invented. The electric current plays a leading part in working the apparatus, rendering it thoroughly effective and brilliant on the darkest nights. It is the conception of Mr. C. V. Boughton, general manager of the Telephotos Co., of Buffalo, the company which is manufacturing the apparatus. The telephotos consists of a series of four double lanterns, lighted by groups of glow lamps, the four double lanterns being hung vertically on a strong wire cable, the upper end of which can be run up to a masthead or yard arm, while the lower end is intended to be fastened to the deck of the vessel. The upper half of each lamp is white, and has within it a group of three lamps surrounded by powerful magnifying lenses. The lower half is red, and has four lamps, in order to make the red beams the stronger, which are surrounded by heavy red lenses. The carefully insulated cable connects the lamps, and passes from the lower one to the deck or the bridge, where a keyboard enables the operator to spell out the code signals about as rapidly as a typewriter is manipulated, and very much in the same manner. The keyboard is fixed to a standard and enclosed like a binnacle, the operator standing in front of it while manipulating the keys. By a simple automatic arrangement each key as depressed lights a combination of the four red and the four white lights, making a letter or a number according to the code of signals. All the operations are automatic, and the combination is made by one touch of the key. Another feature of the keyboard is that when one letter is down all the other keys are locked, so that another can not be accidentally pushed down, thus confusing the signals. Any key pressed down can be turned one-quarter way round, like a screw, which motion locks it in place and leaves the signal burning in case it is desired to use it as a standing signal for an order in the secret naval code. Thus the keyboard can be used to telegraph ordinary instructions by the usual letters, to send a cipher dispatch or special code order. Notwithstanding all this apparent complication the keyboard is compact and its mechanism so simple that it cannot readily be disturbed or got out of order. It is stated that the telephotos has been tried in the British navy, and that a number of sets of the apparatus have been ordered for some of the largest English vessels.—Marine Journal.

#### ENTER AND CLEAR AT INTERMEDIATE PORTS.

The Toledo Produce Exchange has approved the following:

TOLEDO, O., May 17, 1898.

The Toledo Produce Exchange respectfully represents that the Honorable Lyman J. Gage, United States Secretary of the Treasury, is on record in the following expressions, viz.: 'I can not too strongly urge the expediency of making this commerce a subject of annual record and investigation. The statistics of railway transportation have become a recognized branch of the government statistical service, but the necessary complement, the movement of merchandise on the lakes, rivers and canals, has been neglected. I believe the time has come when they (the influences of lake commerce) should be made subject to official record in order that they may be intelligently studied and directed so as to produce the highest benefits to the industrial and commercial interests of the United States.'

In view of these national and patriotic sentiments, so ably expressed, this exchange is inspired with confidence to further respectfully represent to the honorable secretary one method of reform which has been wholly disregarded by his predecessors, and which is absolutely necessary to the accurate records of the commerce of the lakes, and which is signalized by the following statement, viz.: There is no rule of the Treasury Department compelling a uniform report to the custom offices of the loading and discharging of cargoes. As an illustration: A vessel at some other port is chartered to come to Toledo and load coal for the upper lakes. The master clears his vessel for, say, Duluth, comes to Toledo, takes on a cargo of coal, but departs without any clearance whatever. This irregularity of traffic is practiced to a large extent, and the records of commerce are thus incomplete and worthless. The authority of the Secretary of the Treasury is respectfully invoked to issue such orders as will put on record the arrivals and clearances of all cargoes, at all ports on the lakes.

#### THE TRIAL OF THE BATTLESHIP.

Now what sort of a structure is this? (battleship). A huge steel honeycomb—frames and ribs and plates and braces in every direction. Look at the inextricable tangle of them in the shattered Maine. No more great expense of deck with the tiers of guns in diminishing perspective, such as one sees in the old wooden frigates and three-deckers. But compartments everywhere—272 of them in the Indiana. Little steel boxes and big steel boxes—enclosing guns and boxes enclosing engines, and a box for the helm and labyrinthine passages in and out of and around them where daylight never gets; and endless doors, doors, doors—354 water-tight doors and hatches of the Indiana, every one of which somebody must look after and see closed when the ship goes into action. Else why compartments if you can not keep them separate, so that if water comes in from a ram-thrust or torpedo or shot you can confine it to one or two cells and so prevent the ship from filling. There are more compartments in some of the smaller cruisers—the Cincinnati has 487; but cruisers run and battleships do not.

In this assemblage of cells is placed—jammed is a better word—one of the most complicated aggregations of mechanism that have ever been brought together. There are from a hundred to a hundred and fifty steam cylinders in the multifarious engines; not so many as in the cruisers, perhaps. The Columbia has 184; but the Columbia keeps out of the way of 13-inch shot. The battleship Iowa has 152. The New Ironsides, the most powerful fighting vessel in our navy at the close of the last war, had just three.

What steam does not do electricity does. There are wires everywhere. The dynamos are running constantly, for the closed steel boxes get no daylight and must be lighted, while with equal constancy the blowers draw out the foul and force in the fresh air. But on all sides there is machinery. Machines work the guns; machines turn the turrets; machines manage the helm; machines propel and pump the ship and feed the boilers and drive the fires; machines hoist ammunition, boats and anchors; machines find the position of the enemy; machines transmit orders from the captain to every part of the structure; machines make the light; machines condense the drinking water and cool it; machines, themselves propelled by other machines on board, go out under water to blow up their adversary.

That is the thing—11,000 tons, mainly of steel cells, crammed with mechanism of extreme complexity, and which stays afloat only as long as a certain number of the larger amidship cells remain water-tight; that is the thing which is called a battleship; and that is the thing which is the subject of the coming experiment, upon the result of which may depend national victory or defeat.

The more complex any mechanical structure the greater the liability to derangement. Like any chain, its strength or efficiency is that of its weakest link; just as in the animal organization the higher the development the more varied and numerous its diseases. It follows inevitably, therefore, that whether in a battleship or a bridge, or a building, or any other engineering linkage of many co-operating parts, high specialization carries with it increased liability to injury, until the latter overbalances. The battleship experiment will determine whether or not the limit in the war vessel has been passed. Battleships are not designed as are buildings and bridges. The sizes of the members of a viaduct properly to resist all foreseen strains and stresses can be prefigured, and an abundant margin left to cover all accidents by multiplying the result by, say, "ten," the so-called factor of safety. But battleships have no factor of safety, nor would bridges, if anyone expected that a blow of several thousand foot tons, concentrated in the space of a square foot, would come crashing against any part of them at random. Who can predict where that shock will extend itself as it travels over the structure searching for the weak places. Drop your watch on the floor, and it loses five minutes in the next twenty-four hours. Why? The wheels seem to you to be moving as usual. Nor can the jeweler explain the cause until he has dissected the mechanism. When 1,150 pounds of steel, traveling at the rate of 2,000 feet per second, hit some hundred complicated mechanisms packed into 272 compartments in what represents a steel shell 85 feet cube, set afloat, is there anything short of omniscience which can tell what is going to happen, and for how long the thing is going to be a useful fighting machine before it becomes a helpless target or takes its plunge to the bottom?—Park Benjamin, in the Independent.

#### ASHTABULA HARBOR.

Mayor Richardson, of Ashtabula, wrote to Col. Jared A. Smith, Corps of Engineers, U. S. A., to learn if any government harbor work was to be done at that port this season, and in reply received the appended letter:

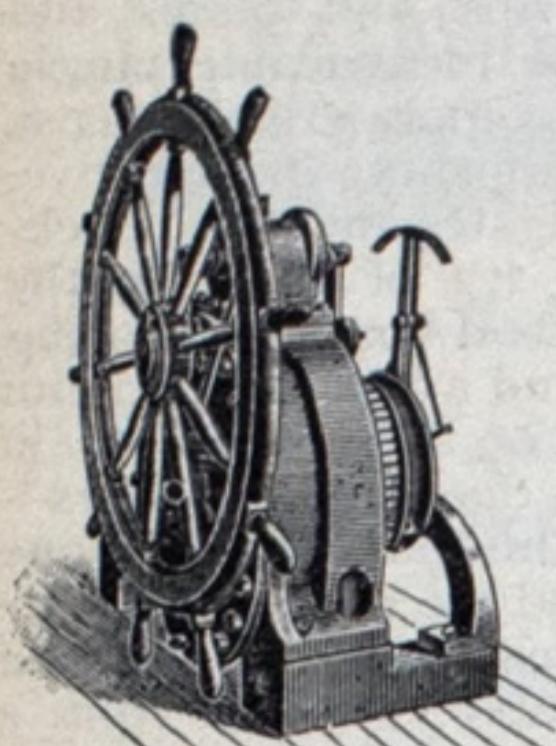
UNITED STATES ENGINEER OFFICE, 1  
CLEVELAND, O., May 10, 1898.

HON. CLARENCE E. RICHARDSON, Mayor, Ashtabula, O.:  
SIR:—Replying to inquiry in your letter of this date, I have to state that the only work at Ashtabula Harbor which is contemplated for the near future is the removal of a small bar near the middle of the channel and just outside the entrance between piers. The funds now available for work at the Harbor are entirely inadequate for any extended work. I have asked for an allotment of \$10,000 from a general appropriation which I understand is to be made for the purpose of maintaining channels at various harbors. Should the allotment be made, as requested, it will be expended as far as may be necessary in maintaining channel depths north of the county bridge.

Very respectfully,

JARED A. SMITH,  
Colonel, Corps of Engineers, U. S. A.

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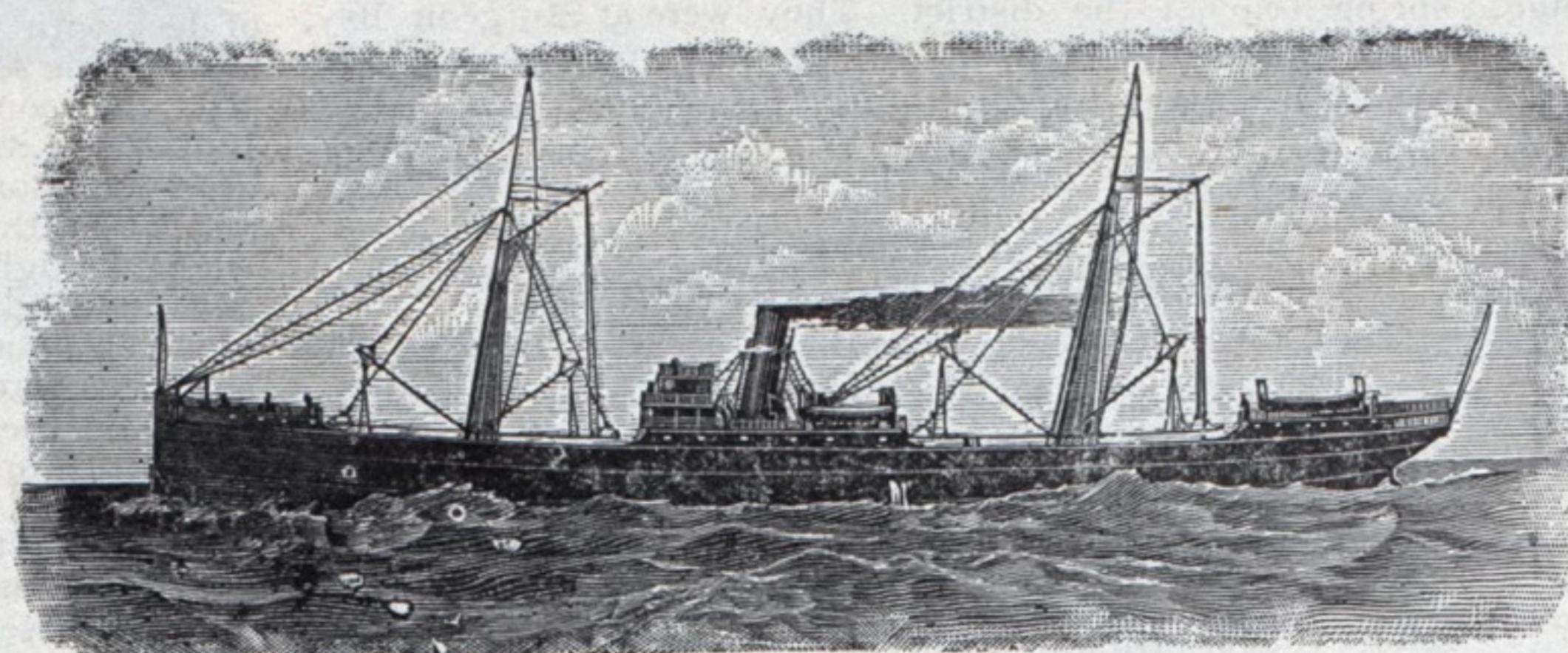
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...NEW YORK CITY.

## LAKE LEVELS.

BUFFALO, N. Y., May 16, 1898.

*The Marine Record, Cleveland, O.*

I send herewith a little table in the form of a comparative statement of the lake levels for the month of April in 1897 and 1898. The information contained in this table was obtained from Maj. Sears, Capt. Zinn and Maj. Symons, of the United States Engineer Corps. The table is as follows:

LAKE.	Point of Observation.	Mean Level, April 1897.	Mean Level, April 1898.	Higher in 1898. Inches.	Lower in 1898. Inches.
Superior .....	Marquette.	+ .360	— .290	....	7.80
Michigan, Huron	Milwaukee	— 4.840	— 4.240	7.20	....
Erie .....	Erie	— .537	+ .002	6.47	....

The figures for Milwaukee show the level to be more than four feet below the plane of reference. In explanation of this it should be said that zero is the high-water of 1838, and represents the highest point which the water has been known to reach. The high-water mark of 1838 has not been approached since that year.

The foregoing table practically explains itself, and shows that during the month of April, 1898, the water on Lake Superior was 7.80 inches lower than in April 1897, while in Lakes Michigan and Huron it was 7.20 inches higher than last year, and on Lake Erie 6.47 inches higher. I think this table will be interesting on account of the exaggerated statements which have been seen in the papers this spring about low water in Lake Superior. Maj. Sears sent me with his figures an interesting letter, which you may publish in full.

I have made arrangements to receive about the first of each month a statement showing the mean level of the previous month on each lake as compared with the corresponding month in the previous year, and I shall take pleasure in sending you these statements for publication when I receive the same.

Very truly yours,

C. H. KEEP, Secretary.

UNITED STATES ENGINEER OFFICE,  
519 PROVIDENCE BUILDING,  
DULUTH, MINN., May 13, 1898.

Mr. C. H. Keep, Sec'y. Lake Carriers' Association, Buffalo:  
SIR: I have your letter of May 9th, and in reply thereto,

submit the following, which has been prepared by my direction, by Mr. J. H. Darling, U. S. Assistant Engineer.

In regard to the stage of water now prevailing in Lake Superior, the following comparative figures are taken from the records of this office, and are based upon the daily gauge readings taken at Marquette, Mich.

The mean level for April, 1898, was .29 feet below L. W. D.; for April, 1897, it was .36 feet above the same datum, and for the twenty-six years, from 1872 to 1897, which covers the entire period of observations at Marquette, the average of the April levels is .08 feet below datum. This makes the water last month .65 feet, or about 8 inches lower than it was a year ago, and .21 feet, or  $2\frac{1}{2}$  inches lower than the average for April, during the last 26 years. So that the water is now nearly at its normal stage for this season. It may be further remarked, that the stage of water last month (April), was 1.74 feet, or about 21 inches, lower than when at its highest stage last year, viz: in August, 1897, (using the mean for each month, as before), and it is this difference which has probably impressed most persons who are engaged around the harbor, and has given rise to the exaggerated reports which have been current about the present stage. The water is always highest in the late summer or early fall, about September, and always lowest in the last of winter or early spring, about March or April. The average difference for the last 26 years between the lowest and highest being .92 feet, or about 11 inches. So there is reason to expect that the water will gradually rise from now on, and get to be about a foot higher later in the season than it is now. We have had three or four successive years of unusually high water in Lake Superior, last year being one of them, and the fact that it is dropping back to its normal stage, or to two or three inches below the normal, need cause no alarm.

Daily gauge readings at Duluth harbor, which are also kept by this office, give the stage for April, 1898, .17 feet below L. W. D., and for April, 1897, .55 feet above the same datum, making the water here .72 feet, or, about  $8\frac{1}{2}$  inches, lower than last year. This confirms within reasonable limits the Marquette record already given, the Marquette gauge better represents the lake taken as a whole.

CLINTON B. SEARS,  
Major, Corps of Engineers, U. S. A.

THE Illinois Steel Co., have issued a most attractive 42-page pamphlet which illustrates and describes their plant at Chicago, besides the branches at Joliet and Milwaukee. The main plant and branches occupy more than 700 acres of

ground. An examination of the pamphlet indicates that the works can and do turn out everything in the way of steel products, and that they possess all of the facilities for doing the best work in the most thorough manner. One of the features of the company's plant is a hospital for the free use of injured employees—a building 116 by 28 feet, equipped with every modern appliance. Throughout the pamphlet are distributed a number of fine half-tone illustrations, which give a most comprehensive idea of the character of the works, and their products.

## THE MARINE DIRECTORY, 1898.

The eleventh annual edition of Beeson's Marine Directory of the North Western Lakes is from press and its distribution to subscribers completed. The work is twenty-four pages larger than any previous issue, and a glance at its advertising pages shows that its publisher has again met with almost the unbroken patronage of the marine interests on these inland waters. The contents of the work are more varied and better chosen than in former issues. Among the new features perhaps the most noticeable is an alphabetically arranged descriptive list of every American lake port from Ogdensburg, N. Y., to Duluth, Minn. As a reference these descriptions of lake ports will prove very valuable. As a single feature, covering as it does about thirty pages, it is well in advance of any special feature ever attempted in a marine publication, and the labor attendant upon its compilation can scarcely be appreciated. A list of vessel owners and their addresses is very noticeable for its careful alphabetical arrangement. The Pilot Rules (with diagrams) corrected to date by Gen. Dumont, is another noticeable feature. The list of engines and boilers in lake vessels, which was one of the factors which added to the circulation of the work last year has been increased and carefully recompiled. The illustrations which embellish the work are all of a marine character or of subjects that would interest vessel men, cover a wide range and are well chosen. In brief, the directory, more than bears out every claim made for it or representations made to the interests to which it caters and from which it receives such marked approval. Typographically and in every respect the appearance of the work is one of which its publisher may well feel proud.

## LITERARY NOTES.

CASSIERS MAGAZINE, in its May number, has among others, the following articles: "Wire Ropeways, Different Types and Their Uses," by W. T. H. Carrington, M. Inst. C. E. "Nickel Steel Armour in the United States," by Titus Ulke, E. M. "Present-day Shipbuilding Problems," by Professor

W. F. Durand. "Raising Wrecks in the Thames," by David W. Noakes. "Compressed Air in Mining, Its Advantages Over Steam and Electricity," by Edward A. Rix.

CAPT. ALFRED T. MAHAN has written a paper for the June number of The Century on the causes of the failure of the Spanish Armada. It accompanies an illustrated article giving the story of the famous catastrophe, based on manuscript records and on the narratives of survivors and other Spanish documents. This number of The Century will contain several other articles of equal timeliness.

#### SUN'S AMPLITUDES.

The following approximate amplitudes of the Sun's rising will be given each week in this column during the season of navigation. A second bearing may be taken by compass at sunset by reversing the east bearings given for the nearest latitude, as the change in declination for a few hours makes but a slight difference in the true bearing of the Sun's setting:

LAKE ERIE AND S. END LAKE MICHIGAN, LAT. 42° N.  
Sunrise. Bearing. Bearing.  
May 20. . . . . E. 27° N. N. E. by E.  $\frac{1}{8}$  E.  
May 25. . . . . E. 28° N. N. E. by E.  $\frac{1}{2}$  E.

LAKE ONTARIO, S. END HURON AND CENTRAL PORTION LAKE MICHIGAN, LAT. 44° N.  
Sunrise. Bearing. Bearing.  
May 20. . . . . E. 28° N. N. E. by E.  $\frac{1}{2}$  E.  
May 25. . . . . E. 29° N. N. E. by E.  $\frac{3}{8}$  E.

N. END LAKES HURON AND MICHIGAN, LAT. 46° N.  
Sunrise. Bearing. Bearing.  
May 20. . . . . E. 28° N. N. E. by E.  $\frac{1}{2}$  E.  
May 25. . . . . E. 30° N. N. E. by E.  $\frac{1}{4}$  E.

LAKE SUPERIOR, LAT. 48° N.  
Sunrise. Bearing. Bearing.  
May 20. . . . . E. 30° N. N. E. by E.  $\frac{1}{4}$  E.  
May 25. . . . . E. 32° N. N. E. by E.  $\frac{1}{8}$  E.

With a compass correct magnetic, the difference between the observed and true bearing or amplitude will be the variation for the locality. Should there be any deviation on the course the vessel is heading at the time of taking the bearing, the difference between the observed and the true

amplitude after the variation is applied, will be the amount of deviation on that course. If the correct magnetic bearing is to the right of the compass bearing, the deviation is easterly, if to the left, the deviation is westerly.

#### VISIBLE SUPPLY OF GRAIN

As compiled for The Marine Record, by George F. Stone, Secretary Chicago Board of Trade.

CITIES WHERE STORED.	WHEAT. Bushels.	CORN. Bushels.	OATS. Bushels.	RYE. Bushels.	BARLEY. Bushels.
Buffalo	1,532,000	1,220,000	915,000	212,000	164,000
Chicago	2,831,000	7,620,000	789,000	220,000	95,000
Detroit	67,000	187,000	9,000	23,000	—
Duluth and Superior	3,112,000	2,267,000	1,555,000	154,000	67,000
Milwaukee	143,000	—	3,000	21,000	10,000
Montreal	155,000	195,000	1,088,000	58,000	40,000
Oswego	—	58,000	—	—	—
Toledo	376,000	449,000	273,000	20,000	—
Toronto	12,000	—	3,000	—	7,000
On Canal	—	—	46,000	—	—
Grand Total	21,994,000	22,460,000	8,704,000	1,427,000	582,000
Corresponding Date, 1897	29,737,000	13,868,000	9,976,000	3,091,000	1,467,000
Decrease	534,000	2,453,000	830,000	459,000	24,000

While the stock of grain at lake ports only is here given, the total shows the figures for the entire country except the Pacific Slope.

#### NEW LAKE TONNAGE.

Official numbers assigned to new lake-built and owned tonnage by the Bureau of Navigation, Treasury Department, during the week ended May 7, are as follows: Steam-Harvey D. Goulder, 157 gross and 78 net tons, built at Buffalo and hauling from Cleveland. Isaac Lincoln, 377 gross and 250 net tons, built at Marine City; home port, Sandusky. Marion, 63 gross and 43 net tons, built at Buffalo; home port, Marquette. Orinoco, 2,226 gross and 1,928 net tons, West Bay City, registered at Port Huron. William H., 39 gross and 26 net tons, Ashtabula Harbor, hauling from Cleveland. Schooners—David Z. Norton, 3,251 gross and 2,926 net tons, built in Cleveland; home port, Cleveland. Unrigged scow, No. 7, 94 tons, and No. 20, 109 tons, Duluth.

#### FRACTIONAL PARTS OF TONNAGE.

An order has been issued by the United States Treasury that after 1st July next the department shall discontinue the practice of keeping fractional records of the tonnage of vessels. The Detroit Dry Dock Co. complained that two of its vessels of exactly similar build had been officially measured to show a difference of four or five tons between them. The company also complained of the necessity of having to stamp fractions of a ton on the beams of ships. "Inasmuch," says the American Shipbuilder (New York), "as no particular good is accomplished by marking the fractions, and as the discontinuance of the practice will result in a saving to ship owners, the order above mentioned was issued." On the other hand, the MARINE RECORD (Cleveland, O.) finds fault with the new regulation because "the question of ship measurement is an international one, and where disputed, the ship has to be measured over again in a foreign port and pay for the cost of same." It calls for the keeping of "true records" and not "courting confusion in the future by canceling large fractional parts of a ton." Taking the mean of all fractional parts of a ton and discarding only up to the fraction of  $\frac{50}{100}$ ths of a ton of each vessel, the RECORD points out that on the 1,380 vessels built in the States in 1891, nearly 700 tons would, under the new regulation, have been measured out. It proposes, as an improved regulation, to discard the fraction when it is less than or amounts to half a ton, and to increase the measurement by one ton when the fraction exceeds the half. This is not so fair to shipowners as the plan which has been adopted. To register against an owner  $\frac{50}{100}$ ths of a ton as one ton would be unjust, and it is questionable whether a regulation so framed would stand. Commissioner Chamberlain has solved the question equitably in his new regulation.—Fairplay, London.

The Burke Transportation Co., of Chicago, has chartered the steamer Faxton, for the route between Chicago and Kenosha. The steamer left Bay City on Wednesday with passengers and merchandise for Mackinaw and Chicago.

## TOBIN BRONZE

(Trade-Mark Registered.)

Tensile strength of plates one-quarter inch thick, upward of 78,000 lbs. per square inch. Torsional strength equal to the best machinery steel. Non-corrosive in sea water. Can be forged at cherry red heat. Round, Square and Hexagon Bars for Bolt Forgings, Pump Piston Rods, Yacht Shaftings, etc. Rolled Sheets and Plates for Pump Linings and Condenser Tube Sheets, Centerboards, Fin Keels and Rudders.

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GREVILLE E. FRYER, Sec'y and Treas.

EUGENE L. ELLISON, Vice President.  
JOHN H. ATWOOD, Assistant Secretary.

T. HOWARD WRIGHT, Marine Secretary.

Lake Marine Department, GEORGE L. McCURDY, Manager.  
CHICAGO, ILL.

## Pintsch Gas Lighted Buoys.

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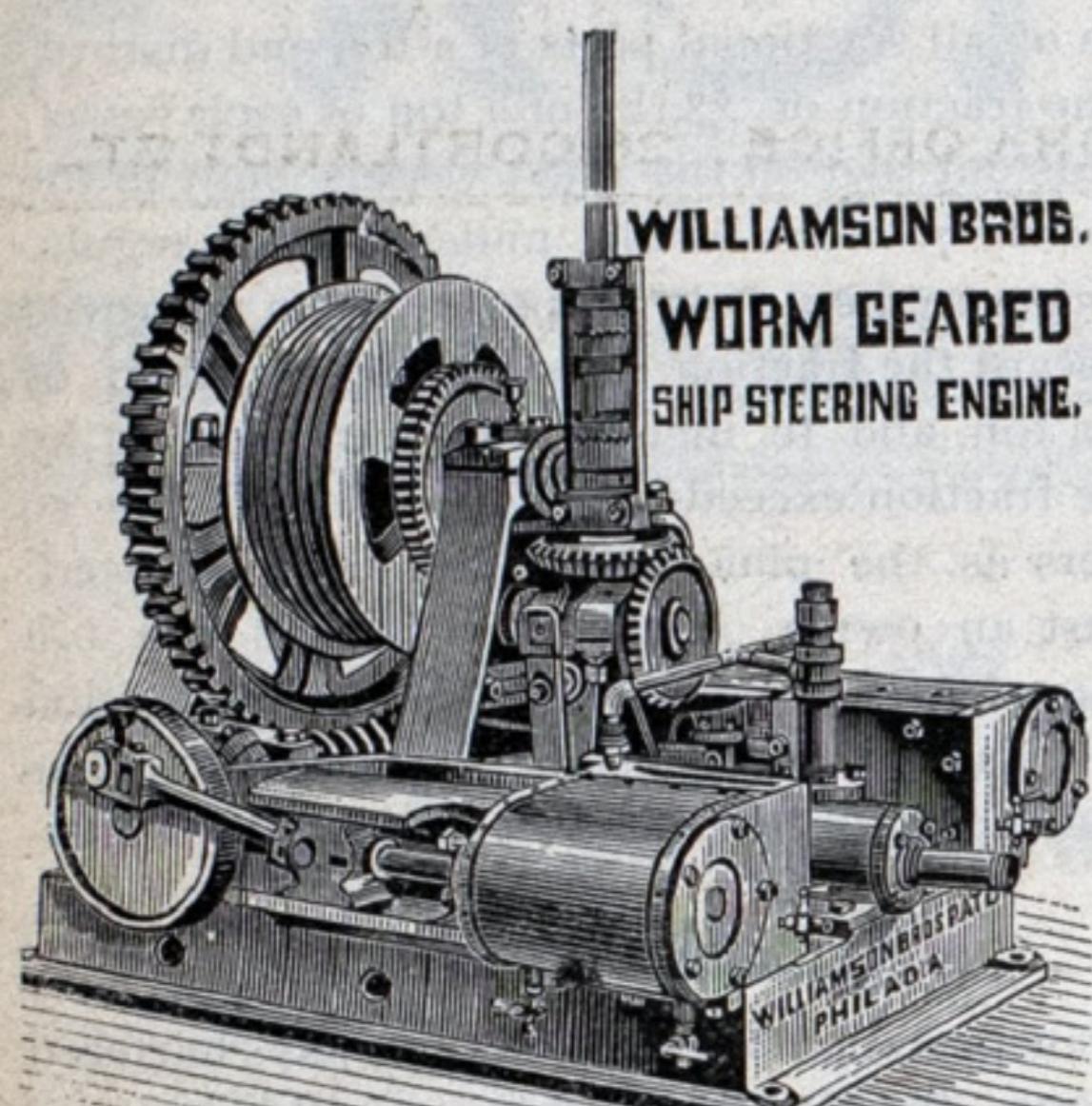


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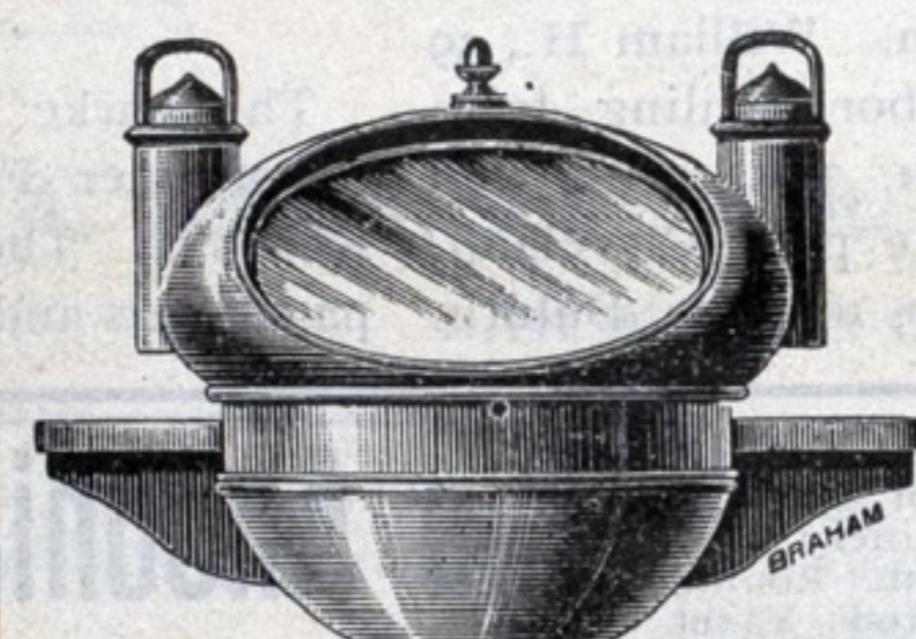
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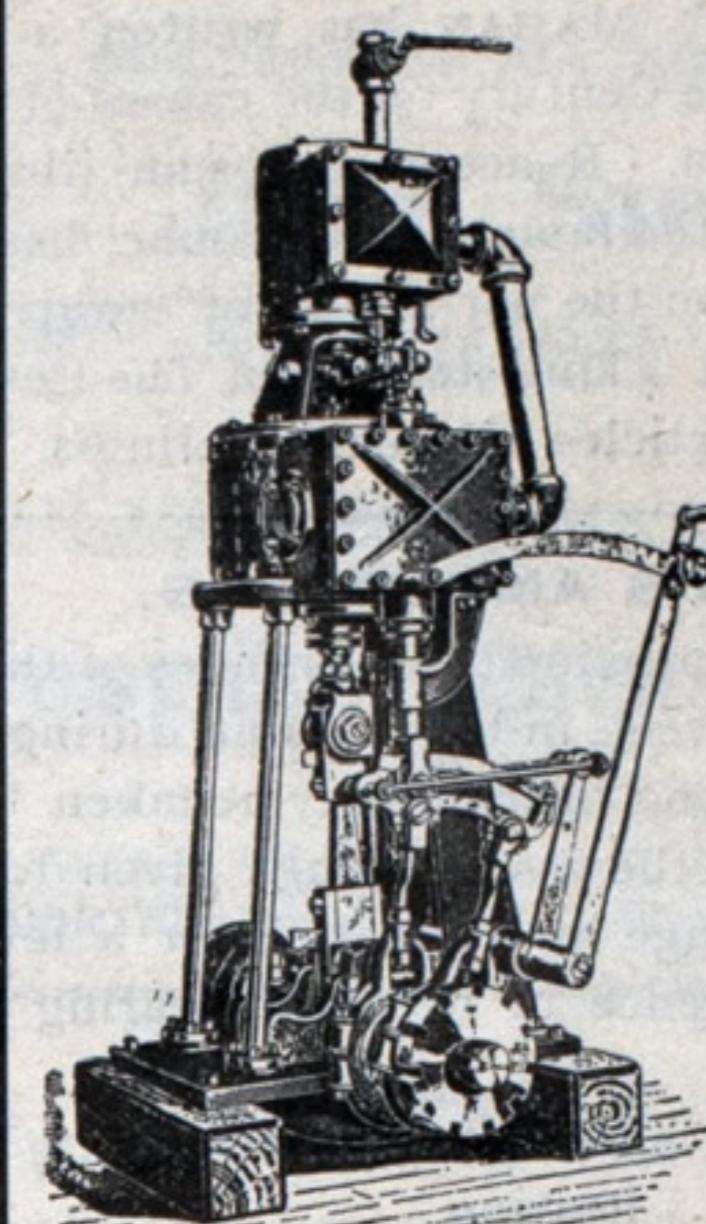
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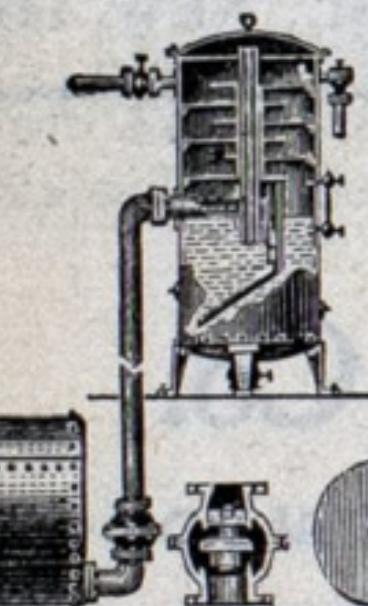
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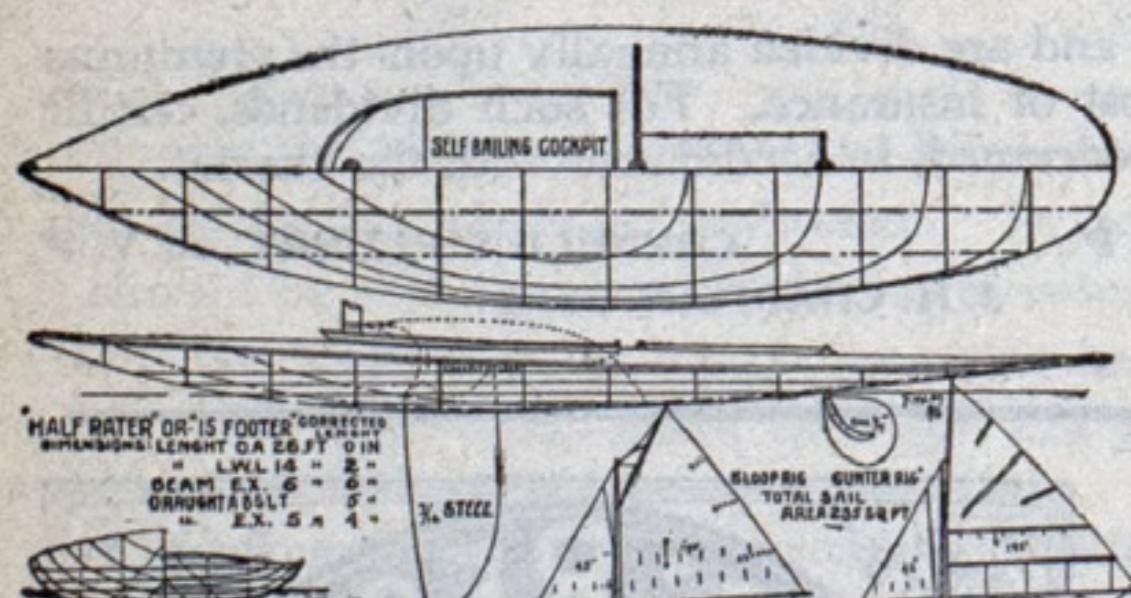
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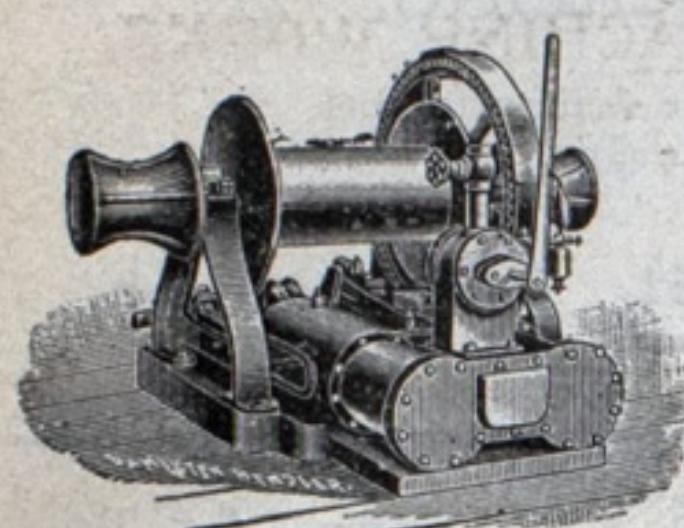
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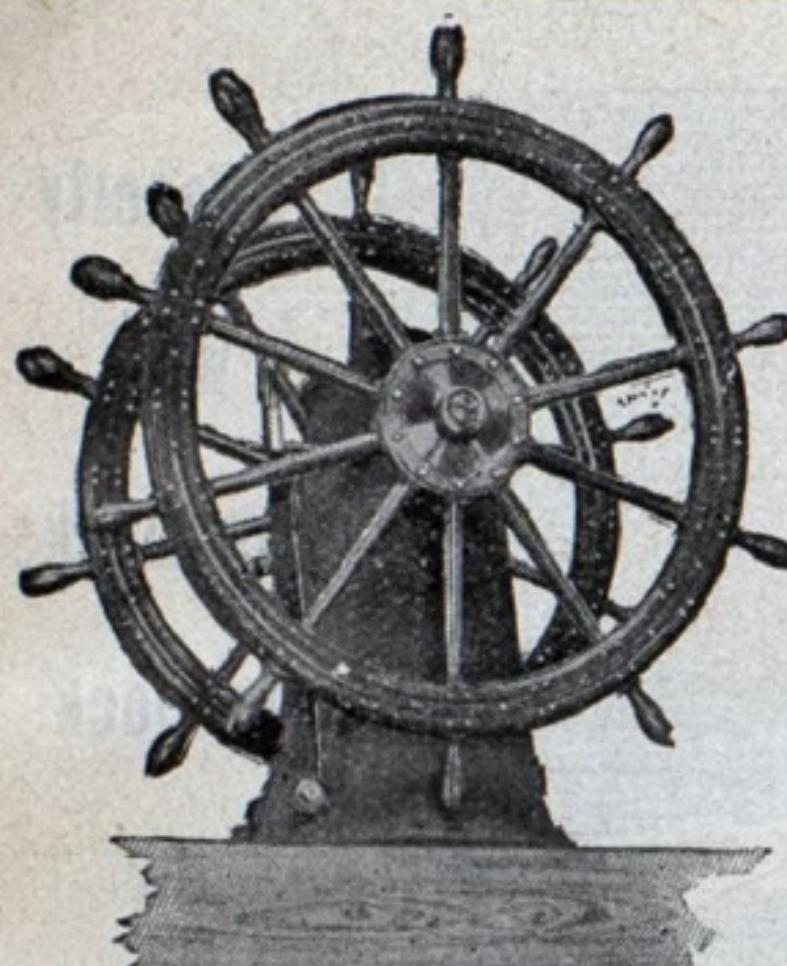
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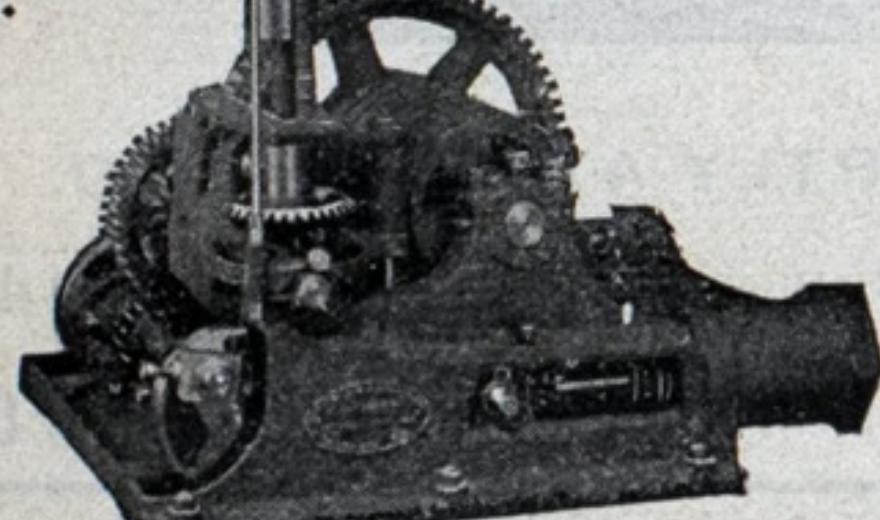
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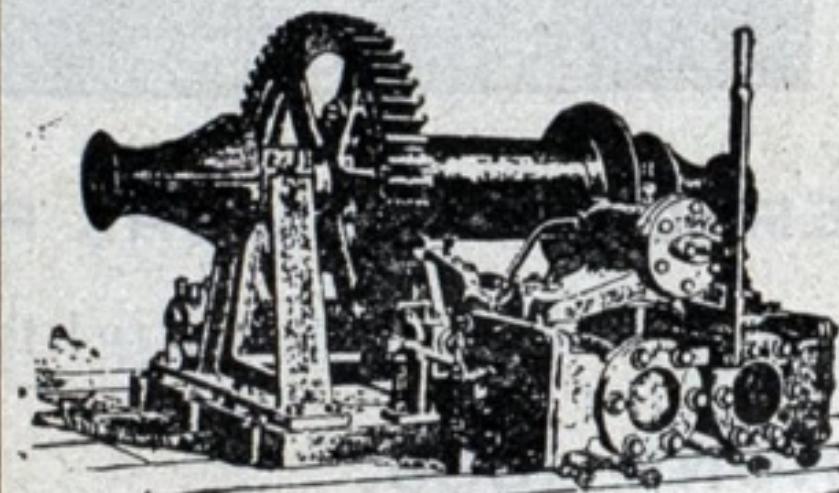
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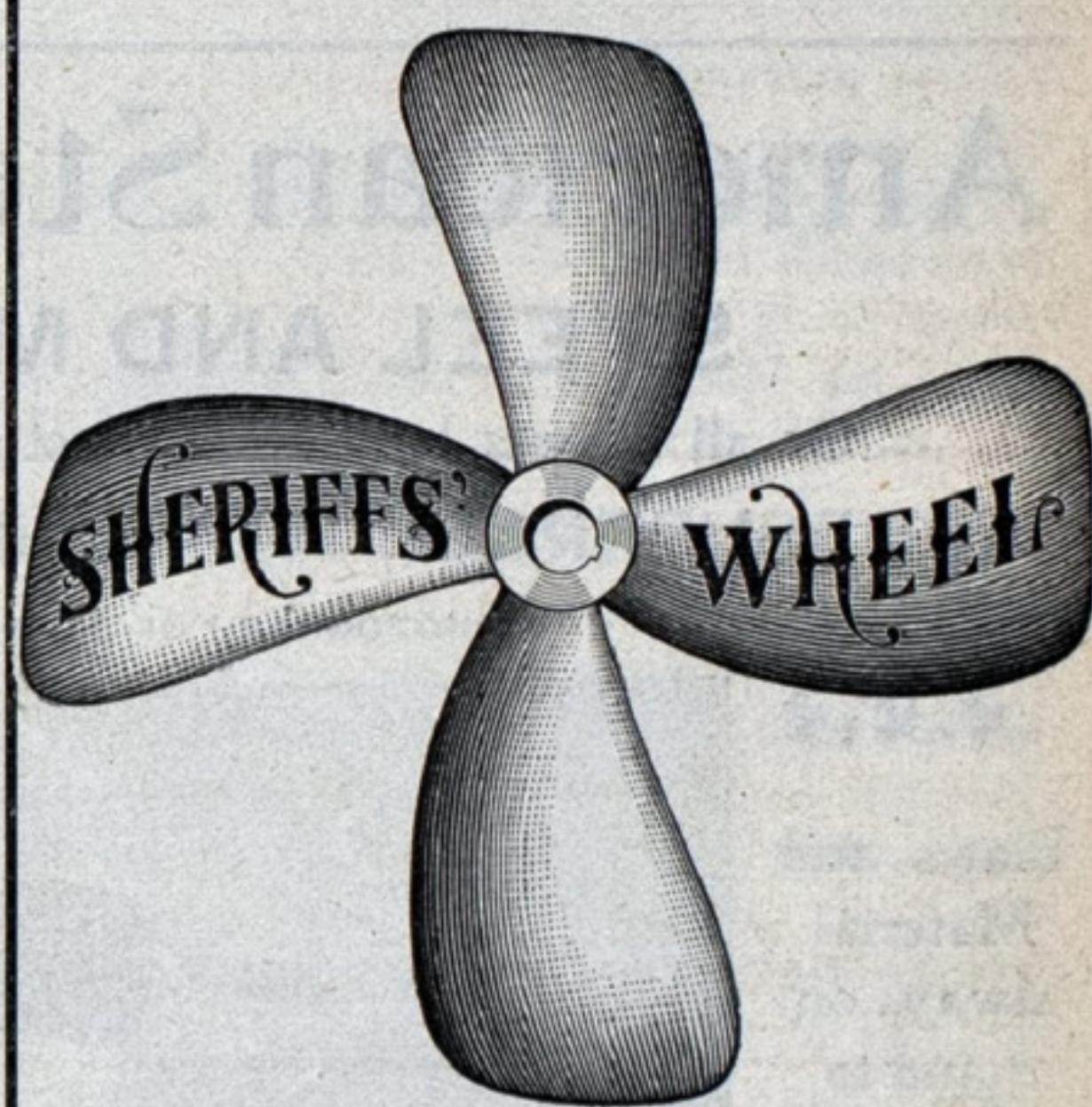
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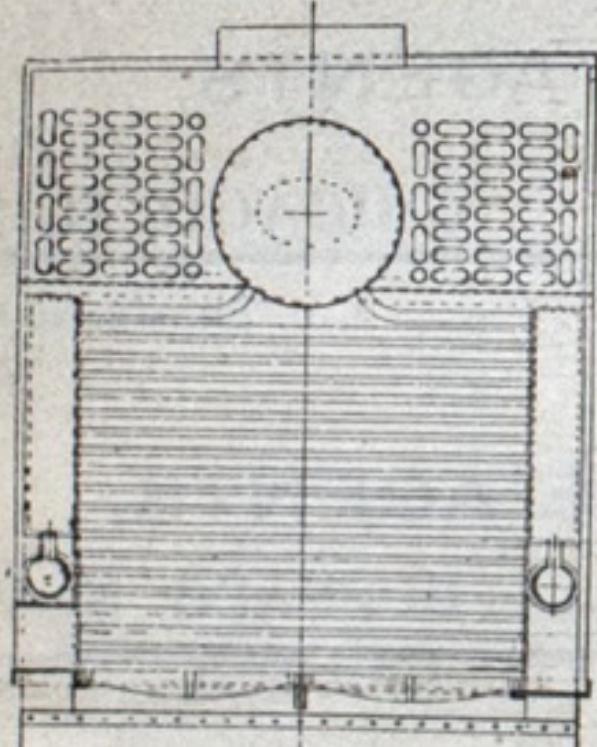
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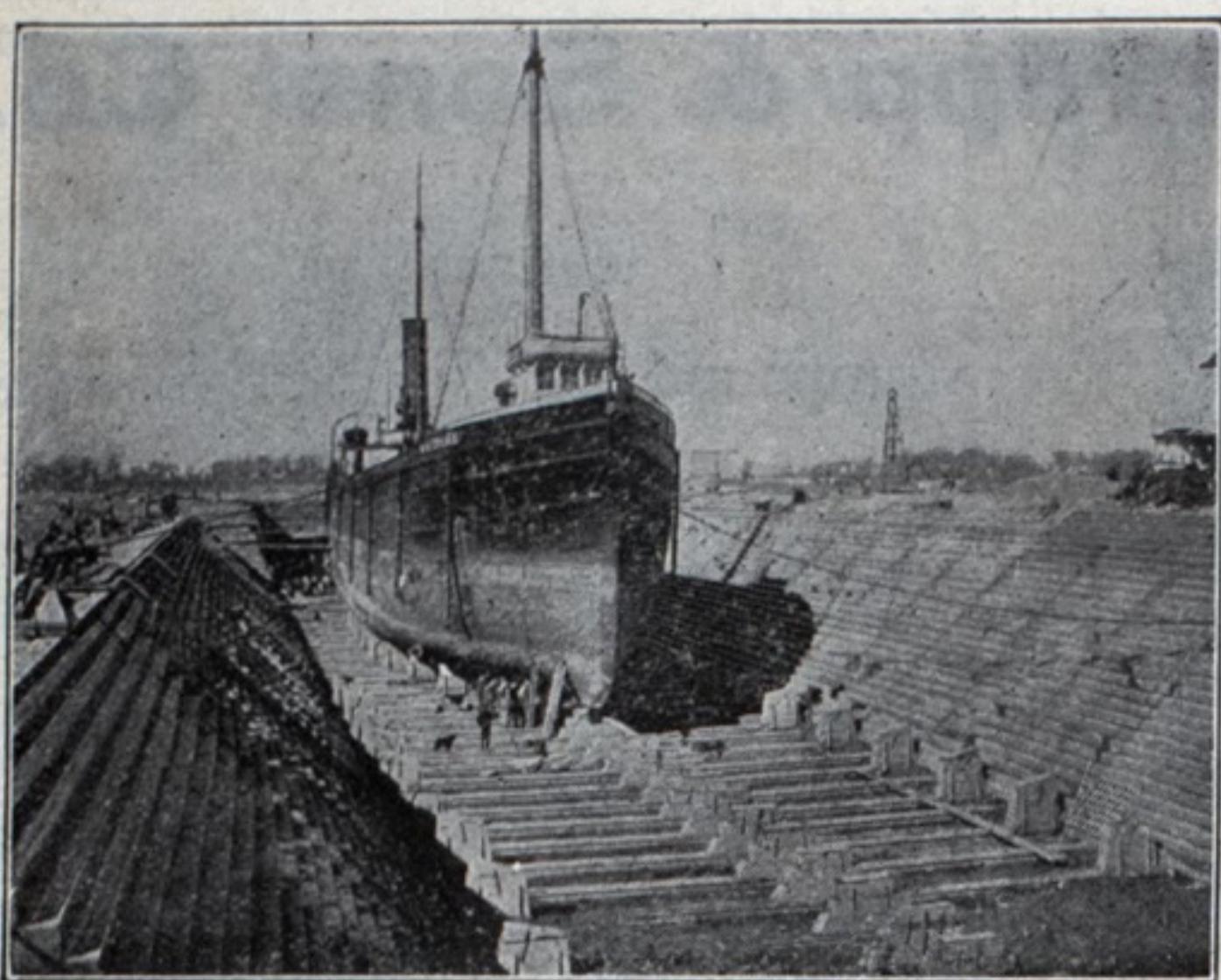
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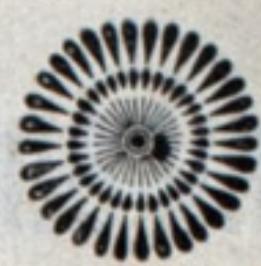
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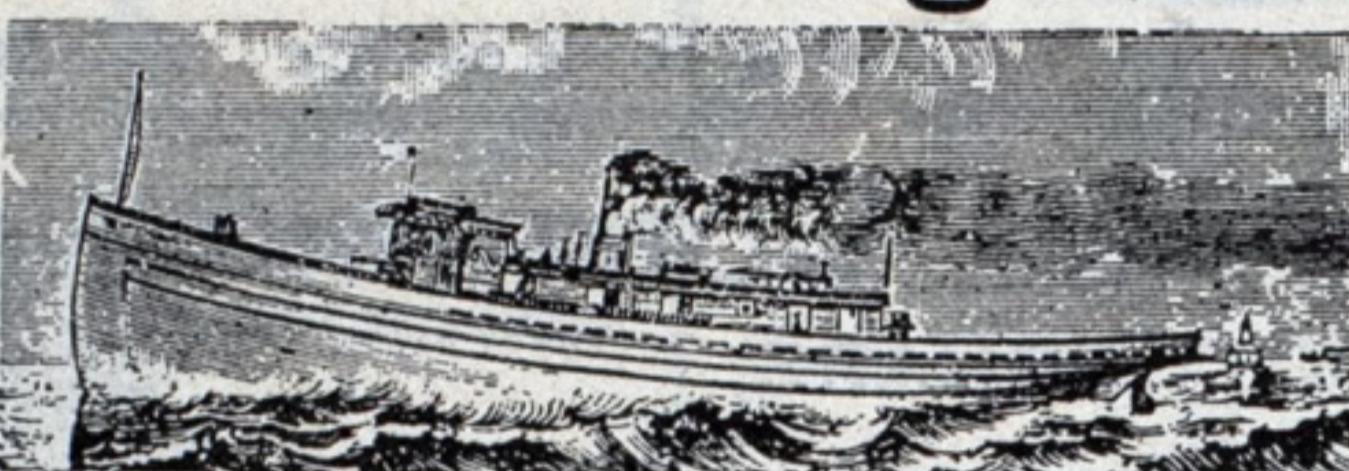
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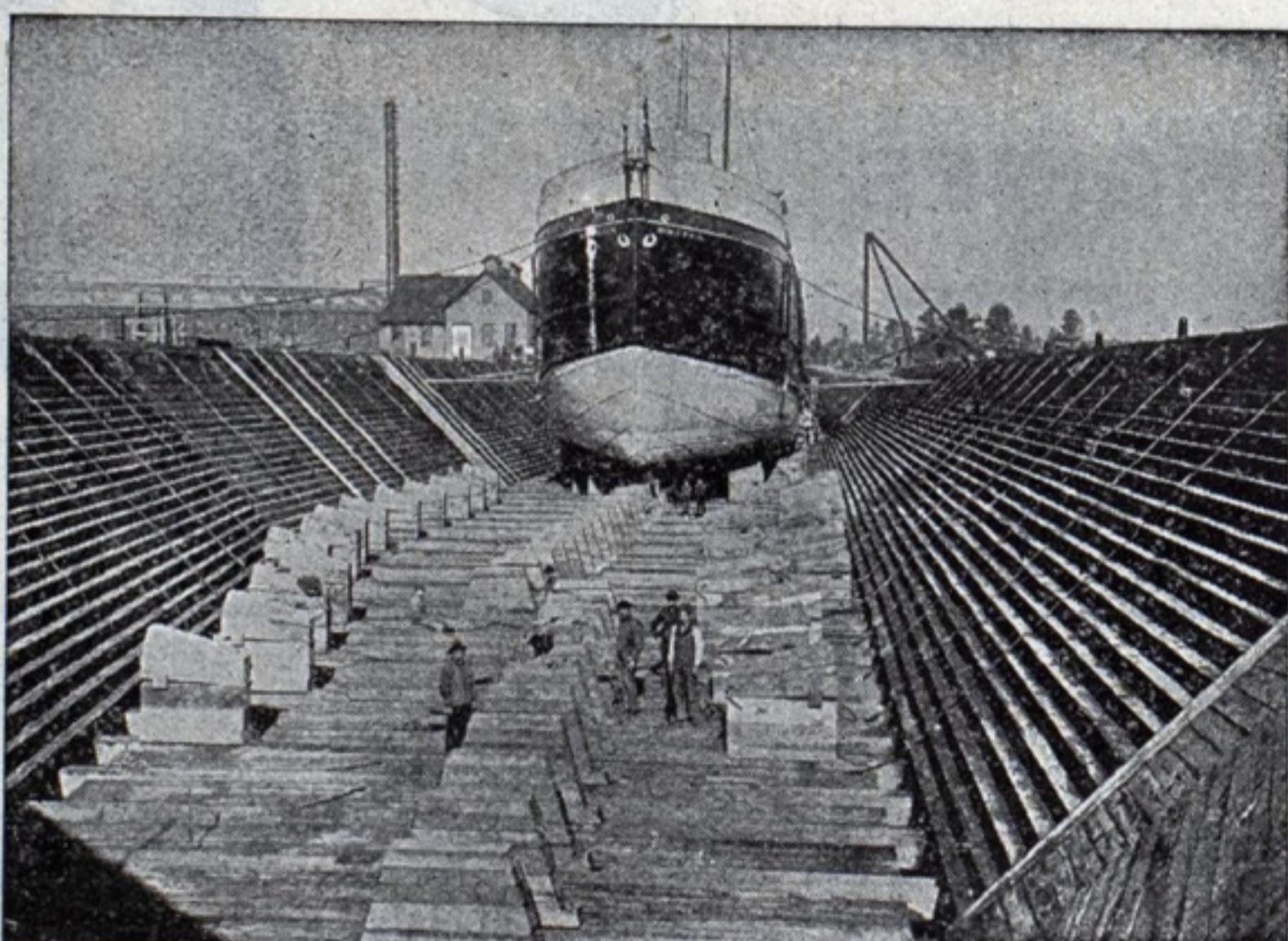
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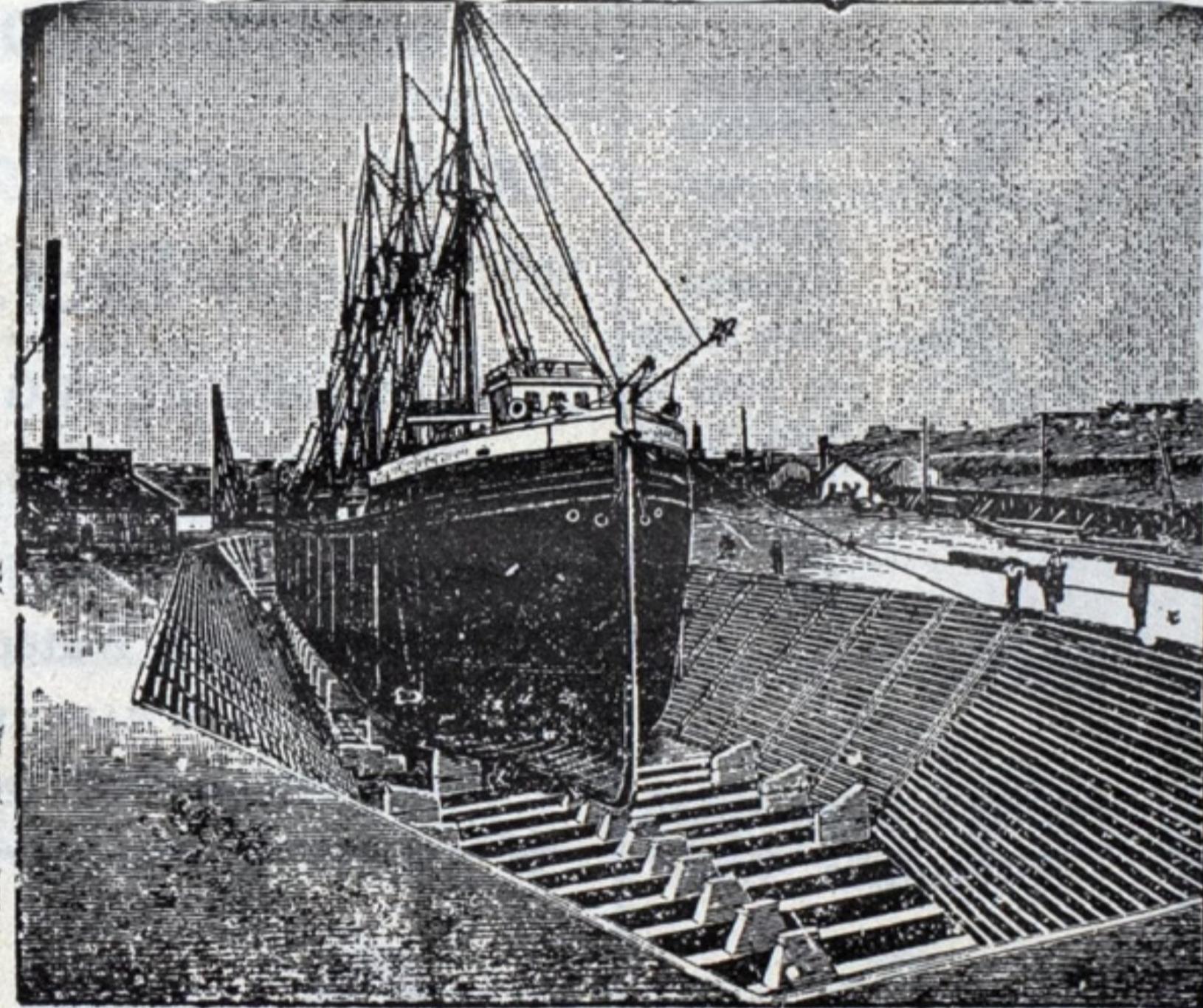
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